

Alberta's Occupational Demand and Supply Outlook, 2007-2017

Alberta Employment and
Immigration

Disclaimer Statement

Alberta Employment and Immigration (E&I) provides labour market information to assist both the government and the public in decision-making. Occupational Demand and Supply Outlooks are affected by a variety of factors and will change over time. When making decisions based on projections, multiple sources of information should always be considered.

Work began on the Alberta Occupational Demand Outlook Model six years ago. Currently, the model is able to predict occupational demand for 520 occupations for Alberta.

In 2003, work began on a counterpart model, the Alberta Occupational Supply Outlook Model, which helps provide insight into current labour market supply and possible supply and demand imbalances that may occur in the future. This year, an alternative retirements approach has been developed along with the enhancement to the education sub-model.

E&I continues to enhance this model's precision and encourages readers to provide advice and feedback on its usefulness and opportunities for improvements to lfs.analyst@gov.ab.ca.

Background

Over the past two decades, Alberta has had the highest economic growth rate and highest employment rate in Canada. The demand for workers in Alberta's robust economy has led to a tight labour market and skill shortages in many occupational groups. Moreover, an aging population, leading to increased retirements, may further compound the shortage of skilled labour.

To better understand and respond to this situation, Alberta Employment and Immigration (E&I) has developed both the Alberta Occupational Demand and Supply Outlook Models. Figure 1 provides an overview of the two models. These models project the demand and supply for 140 different occupations in Alberta between 2007 and 2017. By calculating imbalances between demand and supply, future occupational shortages or surpluses can be forecasted. Results from the two models help users to make better decisions about developing and funding programs and policies as well as personal decisions about education, jobs and careers.

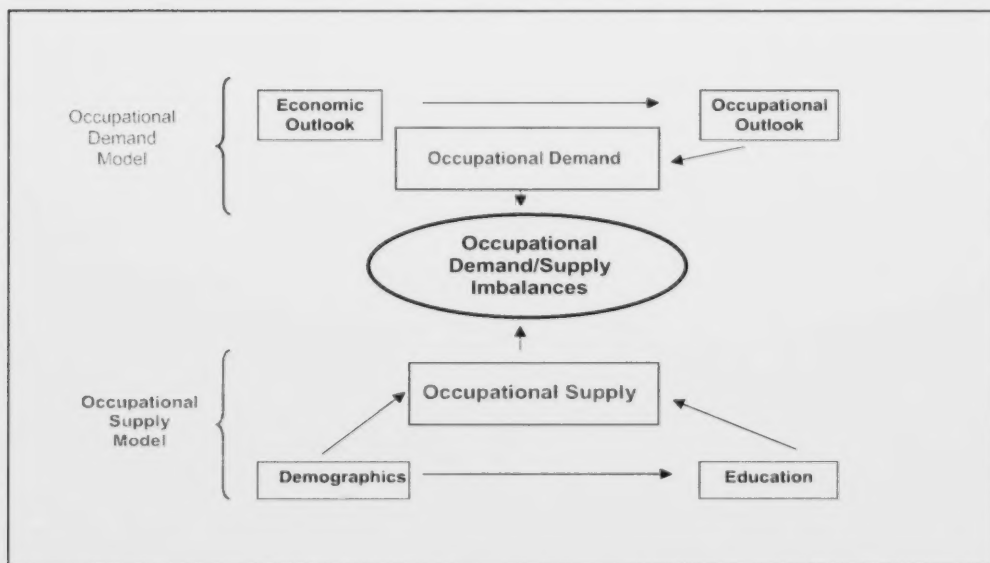


Figure 1: An Overview of the Occupational Demand and Supply Outlook Models

Background

Each model can be broken down into sub-models, which use many data sources. The Alberta Occupational Supply Outlook Model (AOSOM) has 30 linked sub-models and over 100,000 data series. The AOSOM was developed in 2003 and enhancements have been made annually to the original model. For example, this year, the model has been adjusted to enhance the retirement rate estimate and the education/occupation matrix.

Last year, Alberta's occupational supply model determined the number of retirees by utilization of historic retirement rates by occupation. Retirement rates are constructed using Labour Force Survey (LFS) data. Given data availability constraints, these calculations are done at the 1-digit National Occupational Classification for Statistics (NOC-S) level of aggregation by age cohort for Alberta. The data showed that there are some limited retirements in the 35-44 and 45-54 age cohorts, but significantly more in the 55-64 and particularly the 65 years and over age cohort. For the forecast, age specific retirement rates are held constant. Consequently, the rise in the number of retirements over the forecast period only reflects aging of the Alberta workforce, but not any change in age specific retirement rates.

This year, a combination of the median retirement age and LFS retirement rates has been used. In order to estimate the historical Alberta median retirement data, the data for both Alberta and Canada were used. In the case of missing Alberta data, the Canadian median retirement age data were used instead. To ensure a consistency between retirements and available labour force, the effective participation rates were adjusted by occupation, gender and age cohorts to ensure the same impact on that category's labour force. This approach provided more retirement rates by occupation than last year's approach, using the LFS retirement rates.

The occupation/education matrix reflects the proportion of people with a particular level of schooling and major field of study who supply labour to each occupation. Since there are significant differences across age and gender groups in the number of people who supply their labour to specific occupations, the matrix is differentiated by age and sex. The occupation/education matrix is used for the transition from school to work as well as career development. In last year's occupational supply model, the occupation/education matrix reflected the 2001 census data and the coefficients were fixed over the forecast period.

Over time as demand for and supply of occupational employment changes, the proportion of people with a given education supplying occupations also changes. This means that the coefficients in the matrix should change too. In the updated version of the occupational supply model, relative demand slowly alters the occupation/education coefficients. Over time, proportionately more people supply labour to occupations with relatively stronger demand, and proportionately fewer people supply labour to occupations with comparatively weaker demand.

The Alberta Occupational Demand Outlook Model (AODOM) has been used for the past six years and has proven to be reliable.

Once occupational demand and supply have been projected, a simple ratio of demand/supply is calculated to measure imbalances. In an ideal or balanced labour market the ratio is one, whereas a ratio of greater than one indicates a potential shortage, as demand is greater than supply.

This year's findings of the two models are provided in this report. The results presented in this report are from the medium scenario, however, the low and high scenarios results, at the aggregate level, are available upon request. E&I believes that continued work on and development of the AOSOM will help to provide important information on labour market imbalances. E&I encourages readers to provide advice and feedback on the model's usefulness, construction and results. Please see Appendices A and B for a detailed view of the model's methodology and assumptions.

Overall Occupational Outlook

Alberta's labour market is projected to grow by 441,000 workers between 2007 and 2017, an annual average rate of 2.2%. A net increase of 330,000 workers is expected to join the labour force, as occupational supply increases at an annual rate of 1.7%. Over the next ten years, Alberta could experience a labour shortage of approximately 111,000¹ workers. It is expected that in 2007 overall occupational supply will exceed demand, however demand is projected to exceed supply by 2017. Chart 1 shows more detailed information about the labour market indicators for an aggregate of all occupations in Alberta.

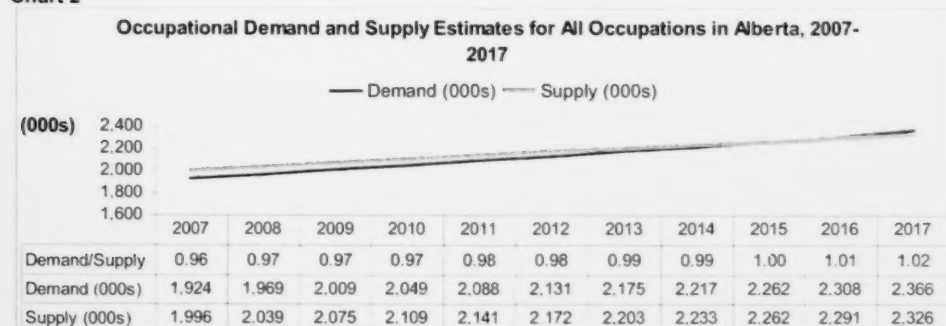
Chart 1



Data Source: E&I's Occupational Demand Outlook Model, E&I's Occupational Supply Outlook Model

Chart 2 presents the trends of occupational demand and supply for all occupations in Alberta from 2007 to 2017. In 2007, occupational supply exceeds demand by over 70,000 individuals. The difference between occupational supply and demand narrows until 2016, when it is projected that demand will begin to exceed supply. For the year 2017, the projected occupational demand exceeds supply by nearly 40,000 workers. For a listing of occupational demand and supply projections, along with forecasted imbalances, for all 140 occupations and several occupations at the 4-digit NOC², please see Appendix E and F respectively.

Chart 2



Data Source: E&I's Occupational Demand Outlook Model, E&I's Occupational Supply Outlook Model

¹ Both models carry assumptions that may change in the future, therefore, these numbers are likely to change

² NOC: National Occupational Classification

Occupational Supply Shortages

Table 1 shows the difference between occupational supply and demand in 2007 and 2017 for those occupations expected to see the fastest growing occupational shortages. Nurse supervisors and registered nurses show the largest projected shortages of over 5,000 individuals in 2017. Physicians, dentists and veterinarians are also anticipated to experience a large supply shortage, starting the forecast period with a shortage of approximately 100 individuals, and moving to a shortage of over 3,000 individuals by 2017. Most of the occupations in Table 1 are expected to begin the forecast period with a shortage and all of the occupations are projected to finish the forecast period with a labour shortage. For the methodology on how the fastest growing occupational supply shortages are calculated, please see Appendix C. The 10 occupations with the fastest growing shortages are given in more detail in Appendix D.

Labour market shortages are partly due to the number of older workers in these occupations. Throughout the forecast period, more individuals in these occupations will retire from their jobs than will enter the occupation.

Table 1

Occupational Supply Minus Demand for the Selected Occupations with the Fastest Growing Occupational Shortage, 2007 and 2017			
	Supply Minus Demand		First Year of Shortage
	2007	2017	
C02 - Life science professionals	-74	-1235	2007
A14 - Facility operation and maintenance managers	-61	-1338	2007
D01 - Physicians, dentists and veterinarians	-81	-3,402	2007
G98 - Other elemental service occupations	132	-1,121	2008
D03 - Pharmacists, dietitians and nutritionists	-89	-978	2007
A34 - Managers in art, culture, recreation and sport	-12	-320	2007
C15 - Technical occupations in architecture, drafting and surveying	29	-2,133	2008
D11 - Nurse supervisors and registered nurses	-861	-5,184	2007
G72 - Tour and recreational guides and casino occupations	36	-223	2009
C11 - Technical occupations in physical sciences	194	-950	2011

Data Source: E&I's Occupational Demand Outlook Model, E&I's Occupational Supply Outlook Model

Occupational Supply Surpluses

Table 2 displays the fastest growing occupational surpluses during 2007 to 2017. Contractors, operators and supervisors in agriculture, horticulture and aquaculture occupations are expected to see the greatest surplus of workers, of over 4,000 individuals by 2017. Secretaries, recorders and transcriptionists are also expected to see a large growth in labour surplus, with a surplus of approximately 2,000 individuals in 2007 increasing to over 3,000 individuals by 2017. Most of the occupations in Table 2 are expected to begin the forecast period with a surplus and all of the occupations are projected to finish the forecast period with a labour surplus. For the methodology on how the fastest growing occupational supply surpluses are calculated, please see Appendix C. The 10 occupations with the fastest growing surpluses are given in more detail in Appendix D.

The growing surplus expected for many of these occupations reflect the rising enrolment and graduation rates in post-secondary institutions in Alberta. Within these occupations, females are expected to show increasing enrolment and graduation rates.

Table 2

	Occupational Supply Minus Demand for the Selected Occupations with the Fastest Growing Occupational surpluses, 2007 and 2017		First Year of Surplus
	Supply	Minus Demand	
	2007	2017	
I01 - Contractors, operators and supervisors in agriculture and horticulture	328	4,437	2007
B21 - Secretaries, recorders and transcriptionists	1,939	3,318	2007
I11 - Supervisors, logging and forestry	11	30	2007
J18 - Printing machine operators and related occupations	-18	193	2011
A01 - Legislators and senior management	15	668	2007
A36 - Managers in other services	-69	150	2012
A30 - Managers in financial and business services	57	348	2007
I02 - Agriculture and horticulture workers	476	671	2007
J22 - Other assembly and related occupations	365	322	2007
I15 - Logging machinery operators	69	46	2007

Data Source: E&I's Occupational Demand Outlook Model, E&I's Occupational Supply Outlook Model

Conclusion

Over the forecast period 2007 to 2017, using both the Alberta Occupational Demand and Supply Outlook Models, potential labour imbalances for different occupations can be anticipated. It should be noted that both of these models make projections and therefore carry assumptions that may change in the future. Hence, a labour shortage or surplus may not be as severe as the models predict. For example, as occupational demand and supply conditions change, individuals may decide to enter a field of study that reflects these current conditions and more people may be attracted to the province. The results of these models are intended as indicators of where the current situation in Alberta may lead in future years.

Appendix A

Alberta Occupational Demand and Supply Outlook Models' Methodologies

Figure 2 provides a detailed view of how occupational demand and supply imbalances are projected.

Two main components in the Alberta Occupational Demand Outlook Model (AODOM) are the economic and occupational components. The economic component produces an outlook of Alberta's economy. Once the performance of the economy is projected, the occupational component calculates the employment that is required to maintain the projected growth.

The Alberta Occupational Supply Outlook Model (AOSOM) makes occupational supply projections with a series of transformations that begin with a demographic outlook and end with occupational supply for 140 occupations. The model has three major components: demographic, education and replacement demand. Education has a central importance in this model because of its role in training the labour force.

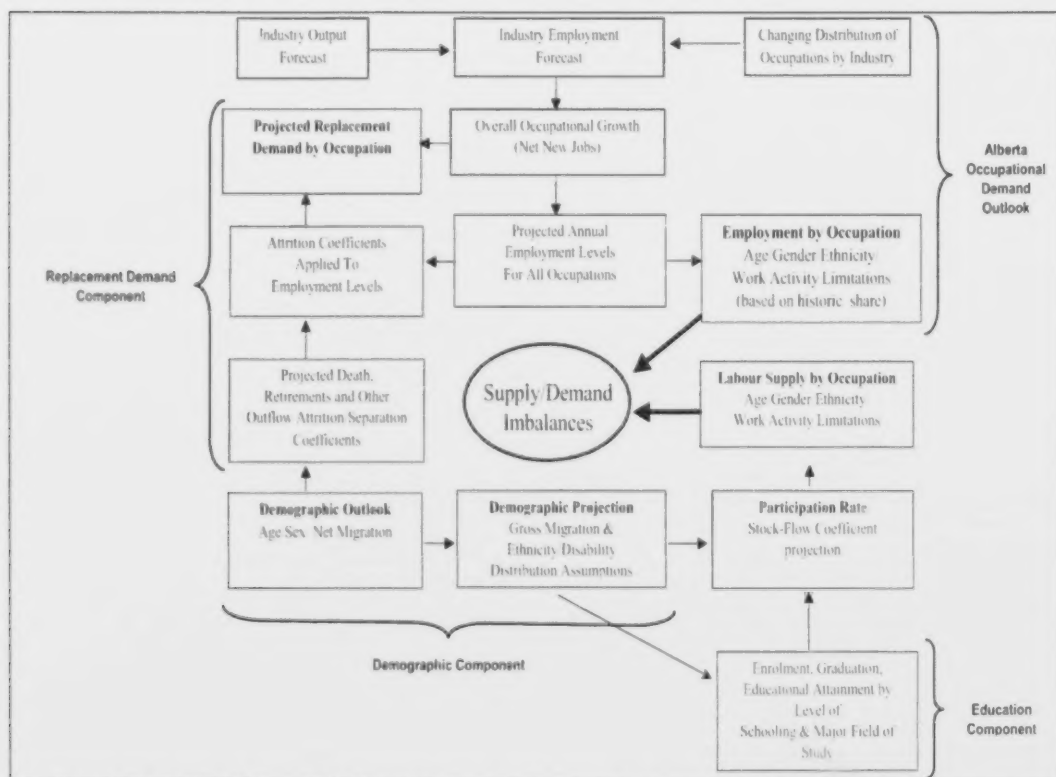


Figure 2: A Detailed View of the Alberta Occupational Supply and Demand Outlook Models

Appendix B

Alberta Occupational Supply Outlook Model Assumptions

As with all forecasts, a number of assumptions are used to derive the results. The model can utilize different assumptions to test various economic scenarios. The assumptions used to generate the results in Appendix E are set out below.

Alberta's Key Economic Indicators

- The average annual growth rate for the Gross Domestic Product (GDP) is 3.1%.
- The average annual unemployment rate is 4.1%.
- The average annual participation rate is 72.7%.
- The high level of investment in the province is expected to continue.

Demographic Component

- Population levels by age and gender groups are determined by a detailed population projection by single year age cohorts. Total population averages 2.2% growth from 2007 to 2017.

Migration

- The level of out-migration is equal to the historic five-year average from 1999 to 2003.
- The level of in-migration equals the projected net-migration plus the assumed out-migration.
- Age and gender distributions for in-migration and out-migration are determined by the historic age and gender distribution for net migration.
- Future immigrants by education type will experience similar occupational outcomes as existing residents of Alberta.

Aboriginals

- The Alberta aboriginal population's birth and death rates are the same as the Canadian aboriginal population's rates.

Visible Minorities

- The visible minorities' age/gender birth and death rates are equal to the Alberta general population's birth and death rates.
- The visible minorities' less than 15 years old age groups (less than 1, 1-3, 4-9, 10-15 years) are assumed to have the same distributions as the Alberta younger age groups.

Appendix B

Demographic Component (Cont.)

Activity Limitations

- To calculate the number of people with activity limitations, a share approach by age and gender was used.¹

Education Component

Enrolment & Graduation

- The number of people who attend school is calculated as a share of the total number in that age or gender group. This proportion is based on historic shares.
- The secondary school enrolment rate for males and females remains constant over the projection period.
- Enrolment rates for postsecondary institutions increase at the same rate as the average of the high and low enrolment rate projections that were conducted by Alberta Advanced Education and Technology.
- Graduation rates are determined by level of schooling, major field of study, age and gender. Graduation rates are calculated as a share of those who could potentially graduate and are kept constant over the forecast period.
- The overall number of university, college and trades graduates is determined by applying the graduate rate to the different age groups who are enrolled in that institution and could potentially graduate.
- Drop out rates and mature student rates are used for the different major fields of study and level of schooling.
- Migration rates by educational attainment are allowed to adjust to reflect relative demand conditions in Alberta.

Educational Attainment

- To calculate the number of people with university, college and trades, and high school education, a stock-flow approach² is used.
- Those with less than a high school education are determined to be those not already accounted for in other educational attainment categories.

¹ **Share Approach:** A method to estimate the future number of people in a group of interest. The proportion of the group of interest to the general population is applied to the forecasted general population estimates to find the predicted group of interest's population. **Example:**

The proportion at time t	Is Multiplied by the Projected Alberta Population for time t+1	To find the projected number of people with activities limitations for time t+1
$\left[\frac{\text{Activity Limitations}}{\text{Alberta Population}} \right]_t$	$\times \text{Alberta Population Projection}_{t+1}$	$= \text{Activity Limitation Population}_{t+1}$

² **Stock-Flow Approach:** A method in estimating the future population of people in a group of interest. To find the forecasted population, the population from the previous year is adjusted to add those expected to enter that group and subtract those that are expected to leave that group. **Example:**

Number of people with College/Trades Training	=	Number of people with College/Trades Training	plus	Recent Graduates of College/Trades	minus	People Leaving Group due to death, retirement, etc.
$t+1$		t		$t+1$		$t+1$

Appendix B

Education Component (Cont.)

Educational Attainment (Cont.)

- Less than high school educational attainment is adjusted to reflect the estimated portion of mature students in post-secondary institutions that do not have a high school diploma. High school educational attainment is also adjusted to subtract recent graduates from university and college and trades.
- The overall enrolment rate for mature students is used for all age groups within the mature student category.
- To project educational attainment by major field of study, the historic relative enrolment rate is maintained over the projected period.
- The share of new graduates by major field of study is constant over time.
- University transfer programs are included as university enrollment and university certificates are classified as college and technical.
- Educational attainment is based on the new graduate forecast plus net inflows from migration less deaths.

Replacement Demand Component

- Retirement rates are derived from Alberta Labour Force Survey (LFS) data, at a fairly aggregate occupational level.
- Retirement by occupation uses the age distribution in that occupation given by the census. As people working in a specific occupation enter older age cohorts a larger share will retire. Age specific retirement rates rise over time to the long-term trend toward falling median retirement ages.
- Other labour force separation rates are derived from the Alberta LFS data at the major group level of aggregation. These separation rates are kept constant over the forecast period.
- Emigration, out-migration and death rates are assumed to be the same for those employed as the general population for a particular age/gender group.

Occupational Component

- Potential occupational supply is determined over the historical period by the historical distribution of occupation by educational attainment. Each detailed occupation (NOC-140) has the same distribution of major field of study as it did in major occupation groups (NOC-47).
- The estimated number of individuals by occupation, age and gender is scaled up to ensure that, in general, the relative balance between labour supply and demand in 2001 is maintained.
- Over the forecast period, the distribution of occupation by education attainment will adjust to changes in relative occupational to educational demand at a pace that is consistent with differences occupational separation rates.
- Potential occupational supply is translated into actual occupational supply by using historic participation rates by occupation. Over forecast period, occupational participation rates adjust to reflect changes in relative occupational demand.

Appendix C

Calculating the Fastest Growing Shortages and Surpluses

To measure occupational shortages and surpluses, a ratio for each occupation is calculated:

$$\frac{\text{Occupational Demand}}{\text{Occupational Supply}} \quad (1)$$

A ratio less than one indicates that supply is greater than demand, a **supply surplus**.

A ratio greater than one occurs if demand is greater than supply, a **supply shortage**.

For each year in the forecast period the growth rate of the demand/supply ratio is calculated using the following formula:

$$\left[\frac{\left[\frac{\text{Demand}}{\text{Supply}} \right]_t \text{ minus } \left[\frac{\text{Demand}}{\text{Supply}} \right]_{t-1}}{\left[\frac{\text{Demand}}{\text{Supply}} \right]_{t-1}} \right] \times 100 \quad (2)$$

Then, the average annual growth rate for the demand/supply ratio is calculated for each of NOC 3-digit and 4-digit occupations. The average annual growth rate is a simple mean of the yearly growth rates for the period 2007 to 2017.

The highest demand/supply average annual growth rates identify the occupations with the fastest growing shortages. The lowest average annual growth rates find the occupations with the fastest growing surplus during the forecast period.

Example a: An average growth rate of 2.0% indicates that occupational demand will grow 2.0 percentage points faster than occupational supply on average each year.

Example b: An average growth rate of -0.7% indicates that occupational supply will grow 0.7 percentage points faster than occupational demand on average each year.

Appendix D

Occupations with the Fastest Growing Shortages and Surpluses

Occupational Demand/Supply Ratio* and Growth Rates for Occupations with the Fastest Growing Shortages, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average Annual Growth Rate (%), 2007-2017
C02 - Life science professionals	1.02	1.11	1.18	1.24	1.29	1.33	1.37	1.40	1.42	1.44	1.44	
<i>Demand/Supply Growth Rate (%)</i>	2.3	8.5	6.2	4.9	4.1	3.4	2.6	2.2	1.5	1.5	0.1	3.4
A14 - Facility operation and maintenance managers	1.01	1.05	1.09	1.13	1.15	1.17	1.20	1.23	1.25	1.26	1.29	
<i>Demand/Supply Growth Rate (%)</i>	3.9	3.7	3.6	3.2	2.4	1.4	2.4	2.5	1.8	1.3	2.2	2.6
D01 - Physicians, dentists and veterinarians	1.01	1.03	1.04	1.06	1.08	1.11	1.14	1.17	1.21	1.25	1.29	
<i>Demand/Supply Growth Rate (%)</i>	1.6	2.0	1.6	1.9	1.9	2.3	2.7	2.8	3.1	3.3	3.4	2.4
G98 - Other elemental service occupations	0.98	1.01	1.03	1.05	1.07	1.10	1.12	1.14	1.16	1.18	1.19	
<i>Demand/Supply Growth Rate (%)</i>	3.3	3.1	2.4	2.0	2.0	2.2	2.1	2.0	1.7	1.5	1.3	2.2
D03 - Pharmacists, dietitians and nutritionists	1.03	1.04	1.06	1.08	1.10	1.13	1.15	1.18	1.21	1.23	1.26	
<i>Demand/Supply Growth Rate (%)</i>	2.6	1.7	1.7	1.8	2.1	2.1	2.0	2.4	2.6	2.3	2.3	2.1
A34 - Managers in art, culture, recreation and sport	1.01	1.03	1.06	1.08	1.10	1.12	1.13	1.15	1.16	1.17	1.20	
<i>Demand/Supply Growth Rate (%)</i>	2.9	2.4	2.6	1.9	1.7	1.7	1.2	1.3	0.7	1.7	1.8	1.8
C15 - Technical occupations in architecture, drafting and surveying	1.00	1.01	1.03	1.04	1.07	1.09	1.11	1.13	1.15	1.17	1.20	
<i>Demand/Supply Growth Rate (%)</i>	0.7	1.5	1.4	1.7	2.2	2.0	1.9	1.8	1.9	2.1	2.0	1.7
D11 - Nurse supervisors and registered nurses	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	
<i>Demand/Supply Growth Rate (%)</i>	3.9	1.0	1.1	1.1	1.0	1.2	1.1	1.0	1.4	1.6	1.4	1.4
G72 - Tour and recreational guides and casino occupations	0.98	0.98	1.00	1.00	1.01	1.03	1.03	1.05	1.06	1.07	1.09	
<i>Demand/Supply Growth Rate (%)</i>	4.0	0.2	2.0	0.3	1.0	1.2	0.9	1.1	0.9	1.8	1.5	1.4
C11 - Technical occupations in physical sciences	0.97	0.98	0.98	1.00	1.01	1.02	1.04	1.05	1.07	1.09	1.12	
<i>Demand/Supply Growth Rate (%)</i>	0.2	0.6	0.9	1.2	1.0	1.3	1.8	1.5	1.5	1.5	3.4	1.4

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix D

Occupations with the Fastest Growing Shortages and Surpluses (Cont.)

Occupational Demand/Supply Ratio* and Growth Rates for Occupations with the Fastest Growing Surpluses, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average Annual Growth Rate (%), 2007-2017
I01 - Contractors, operators and supervisors in agriculture and horticulture	0.99	0.95	0.93	0.91	0.90	0.90	0.90	0.90	0.90	0.90	0.91	
<i>Demand/Supply Growth Rate (%)</i>	0.2	-4.0	-2.5	-1.7	-1.1	-0.5	-0.2	0.0	0.1	0.4	0.8	-0.8
B21 - Secretaries, recorders and transcriptionists	0.91	0.88	0.87	0.86	0.86	0.86	0.87	0.87	0.88	0.89	0.90	
<i>Demand/Supply Growth Rate (%)</i>	-5.3	-3.6	-1.6	-0.6	-0.4	0.2	0.6	0.7	0.8	1.1	1.3	-0.6
I11 - Supervisors, logging and forestry	0.96	0.92	0.91	0.89	0.89	0.89	0.88	0.88	0.90	0.90	0.90	
<i>Demand/Supply Growth Rate (%)</i>	0.4	-3.9	-1.8	-1.4	-0.9	0.1	-0.1	-0.1	1.7	0.1	0.4	-0.5
J18 - Printing machine operators and related occupations	1.006	1.030	1.028	1.007	0.974	0.968	0.961	0.955	0.951	0.949	0.950	
<i>Demand/Supply Growth Rate (%)</i>	0.604	2.347	-0.206	-2.041	-3.275	-0.607	-0.735	-0.577	-0.419	-0.258	0.128	-0.5
A01 - Legislators and senior management	1.00	0.96	0.89	0.88	0.87	0.88	0.89	0.91	0.92	0.94	0.95	
<i>Demand/Supply Growth Rate (%)</i>	1.5	-3.7	-6.9	-1.9	-0.5	0.7	1.6	1.7	1.4	1.7	1.1	-0.3
A36 - Managers in other services	1.02	1.07	1.08	1.07	1.04	1.00	0.99	0.98	0.97	0.97	0.97	
<i>Demand/Supply Growth Rate (%)</i>	2.0	4.4	1.1	-0.6	-3.2	-3.8	-0.8	-0.8	-0.9	-0.5	0.0	-0.3
A30 - Managers in financial and business services	0.99	1.04	1.04	1.02	1.01	1.00	0.99	0.98	0.97	0.97	0.97	
<i>Demand/Supply Growth Rate (%)</i>	-0.7	4.3	0.0	-1.2	-1.2	-1.2	-1.0	-0.9	-0.7	-0.1	-0.2	-0.3
I02 - Agriculture and horticulture workers	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
<i>Demand/Supply Growth Rate (%)</i>	-0.6	-5.6	-2.7	-1.0	-0.6	0.0	0.8	1.5	1.8	2.1	2.2	-0.2
J22 - Other assembly and related occupations	0.95	0.93	0.92	0.92	0.92	0.93	0.94	0.95	0.95	0.96	0.96	
<i>Demand/Supply Growth Rate (%)</i>	-4.0	-2.0	-0.6	0.0	0.4	0.8	0.9	0.8	0.7	0.6	0.4	-0.2
I15 - Logging machinery operators	0.86	0.78	0.75	0.74	0.74	0.76	0.78	0.81	0.84	0.87	0.91	
<i>Demand/Supply Growth Rate (%)</i>	-8.9	-9.3	-3.7	-1.2	0.2	2.4	2.7	3.2	3.8	4.0	4.7	-0.2

*Supply Shortage if Greater Than 1

Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
All Occupations												
Demand Projection	1,924,217	1,968,941	2,009,399	2,048,575	2,088,415	2,131,277	2,174,871	2,217,093	2,262,291	2,307,909	2,365,634	
Supply Projection	1,995,814	2,038,907	2,075,120	2,108,547	2,140,855	2,171,861	2,203,095	2,232,657	2,262,471	2,290,522	2,326,303	
Demand/Supply*	0.964	0.966	0.968	0.972	0.976	0.981	0.987	0.993	1.000	1.008	1.017	0.985
A01 - Legislators and senior management												
Demand Projection	6,340	6,886	7,382	7,883	8,422	8,977	9,527	10,068	10,635	11,216	11,790	
Supply Projection	6,355	7,164	8,251	8,983	9,651	10,211	10,666	11,086	11,545	11,977	12,458	
Demand/Supply	0.998	0.961	0.895	0.878	0.873	0.879	0.893	0.908	0.921	0.936	0.946	0.917
A11 - Administrative services managers												
Demand Projection	11,934	12,365	12,856	13,336	13,768	14,194	14,678	15,109	15,513	15,936	17,306	
Supply Projection	12,147	12,448	12,919	13,391	13,808	14,226	14,738	15,184	15,596	16,053	17,483	
Demand/Supply	0.982	0.993	0.995	0.996	0.997	0.998	0.996	0.995	0.995	0.993	0.990	0.994
A12 - Managers in engineering, architecture, science and information systems												
Demand Projection	10,033	10,241	10,469	10,709	10,910	11,121	11,349	11,575	11,796	12,009	12,708	
Supply Projection	9,857	9,960	10,126	10,323	10,541	10,795	11,080	11,390	11,718	12,030	12,421	
Demand/Supply	1.018	1.028	1.034	1.037	1.035	1.030	1.024	1.016	1.007	0.998	1.023	1.023
A13 - Sales, marketing and advertising managers												
Demand Projection	11,530	11,555	11,578	11,600	11,623	11,648	11,673	11,697	11,723	11,750	11,777	
Supply Projection	11,776	11,886	11,946	11,999	12,025	12,023	12,010	11,997	11,958	11,905	11,832	
Demand/Supply	0.979	0.972	0.969	0.967	0.967	0.969	0.972	0.975	0.980	0.987	0.995	0.976
A14 - Facility operation and maintenance managers												
Demand Projection	4,274	4,431	4,575	4,726	4,886	5,050	5,221	5,388	5,565	5,749	5,930	
Supply Projection	4,213	4,212	4,197	4,200	4,240	4,320	4,362	4,393	4,459	4,548	4,592	
Demand/Supply	1.014	1.052	1.090	1.125	1.153	1.169	1.197	1.226	1.248	1.264	1.291	1.166
A21 - Managers in retail trade												
Demand Projection	36,231	37,244	37,889	38,789	39,820	40,879	41,914	42,962	44,297	45,654	46,963	
Supply Projection	37,392	38,796	39,555	40,440	41,323	42,013	42,649	43,244	44,046	44,751	45,350	
Demand/Supply	0.969	0.960	0.958	0.959	0.964	0.973	0.983	0.993	1.006	1.020	1.036	0.984
A22 - Managers in food service and accommodation												
Demand Projection	17,469	17,816	18,349	18,714	19,085	19,515	19,961	20,490	21,023	21,593	22,079	
Supply Projection	18,103	18,831	19,532	19,936	20,272	20,561	20,839	21,174	21,478	21,784	22,001	
Demand/Supply	0.965	0.946	0.939	0.939	0.941	0.949	0.958	0.968	0.979	0.991	1.004	0.962

*Supply Shortage if Greater Than 1

Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
A30 - Managers in financial and business services												
Demand Projection	8,029	8,174	8,478	8,793	9,083	9,488	9,876	10,300	10,751	11,159	11,517	
Supply Projection	8,086	7,892	8,189	8,597	8,989	9,506	9,991	10,512	11,049	11,474	11,865	
Demand/Supply*	0.993	1.036	1.035	1.023	1.010	0.998	0.989	0.980	0.973	0.973	0.971	0.998
A31 - Managers in communication (except broadcasting)												
Demand Projection	1,035	1,085	1,131	1,185	1,235	1,291	1,352	1,406	1,464	1,514	1,566	
Supply Projection	1,097	1,162	1,214	1,272	1,311	1,359	1,432	1,480	1,528	1,558	1,587	
Demand/Supply	0.944	0.934	0.932	0.932	0.942	0.950	0.944	0.950	0.958	0.972	0.987	0.949
A32 - Managers in health, education, social and community services												
Demand Projection	13,572	13,818	14,043	14,288	14,548	14,836	15,146	15,466	15,806	16,163	16,525	
Supply Projection	13,570	13,824	14,095	14,381	14,677	14,998	15,346	15,716	16,098	16,490	16,898	
Demand/Supply	1.000	1.000	0.996	0.994	0.991	0.989	0.987	0.984	0.982	0.980	0.978	0.989
A33 - Managers in public administration												
Demand Projection	3,682	3,745	3,821	3,890	3,964	4,029	4,106	4,167	4,228	4,298	4,521	
Supply Projection	3,619	3,625	3,675	3,746	3,821	3,892	3,970	4,036	4,092	4,138	4,192	
Demand/Supply	1.017	1.033	1.040	1.039	1.038	1.035	1.034	1.032	1.033	1.039	1.079	1.038
A34 - Managers in art, culture, recreation and sport												
Demand Projection	1,240	1,306	1,364	1,435	1,501	1,575	1,658	1,733	1,813	1,885	1,959	
Supply Projection	1,228	1,263	1,286	1,327	1,364	1,407	1,464	1,511	1,570	1,606	1,639	
Demand/Supply	1.010	1.035	1.061	1.081	1.100	1.119	1.132	1.147	1.155	1.174	1.195	1.110
A35 - Managers in protective service												
Demand Projection	668	713	757	802	846	889	932	976	1,021	1,067	1,112	
Supply Projection	710	743	759	777	795	814	825	860	911	966	1,017	
Demand/Supply	0.941	0.960	0.997	1.031	1.064	1.092	1.130	1.135	1.120	1.104	1.094	1.061
A36 - Managers in other services												
Demand Projection	3,479	3,562	3,632	3,717	3,807	3,901	3,999	4,091	4,190	4,280	4,371	
Supply Projection	3,411	3,344	3,373	3,473	3,673	3,913	4,044	4,171	4,312	4,426	4,521	
Demand/Supply	1.020	1.065	1.077	1.070	1.037	0.997	0.989	0.981	0.972	0.967	0.967	1.013
A37 - Managers in construction and transportation												
Demand Projection	21,683	22,603	23,184	23,549	23,909	24,341	24,558	24,679	24,970	25,157	25,370	
Supply Projection	21,353	21,988	22,502	22,956	23,399	23,813	24,134	24,419	24,717	24,957	25,165	
Demand/Supply	1.015	1.028	1.030	1.026	1.022	1.022	1.018	1.011	1.010	1.008	1.008	1.018

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
A38 - Managers in primary production (except agriculture)												
Demand Projection	4,998	5,079	5,186	5,346	5,453	5,780	6,195	6,498	6,847	7,185	7,875	
Supply Projection	4,911	4,900	4,976	5,122	5,235	5,534	5,829	6,014	6,223	6,412	6,842	
Demand/Supply*	1.018	1.036	1.042	1.044	1.042	1.044	1.063	1.081	1.100	1.121	1.151	1.067
A39 - Managers in manufacturing and utilities												
Demand Projection	5,535	5,706	5,898	6,069	6,222	6,375	6,560	6,722	6,861	6,990	7,447	
Supply Projection	5,830	6,195	6,513	6,696	6,805	6,881	6,970	7,027	7,059	7,073	7,427	
Demand/Supply	0.949	0.921	0.906	0.906	0.914	0.926	0.941	0.957	0.972	0.988	1.003	0.944
B01 - Auditors, accountants and investment professionals												
Demand Projection	36,908	37,627	38,455	39,352	40,131	40,950	41,854	42,670	43,450	44,208	46,692	
Supply Projection	37,506	38,380	39,228	40,031	40,697	41,365	42,230	43,002	43,678	44,281	46,154	
Demand/Supply	0.984	0.980	0.980	0.983	0.986	0.990	0.991	0.992	0.995	0.998	1.012	0.990
B02 - Human resources and business service professionals												
Demand Projection	19,553	19,777	20,045	20,318	20,546	20,772	21,034	21,274	21,496	21,730	22,502	
Supply Projection	20,132	20,503	20,818	21,093	21,341	21,565	21,780	21,986	22,173	22,336	22,489	
Demand/Supply	0.971	0.965	0.963	0.963	0.963	0.963	0.966	0.968	0.969	0.973	1.001	0.969
B11 - Finance and insurance administrative occupations												
Demand Projection	40,077	40,621	41,171	41,707	42,267	42,912	43,504	44,102	44,769	45,394	45,988	
Supply Projection	40,330	41,023	41,623	42,155	42,637	43,081	43,545	44,042	44,558	45,064	45,584	
Demand/Supply	0.994	0.990	0.989	0.989	0.991	0.996	0.999	1.001	1.005	1.007	1.009	0.997
B21 - Secretaries, recorders and transcriptionists												
Demand Projection	20,620	21,616	22,462	23,317	24,242	25,223	26,183	27,134	28,169	29,198	30,233	
Supply Projection	22,559	24,523	25,900	27,049	28,229	29,301	30,234	31,106	32,023	32,829	33,551	
Demand/Supply	0.914	0.881	0.867	0.862	0.859	0.861	0.866	0.872	0.880	0.889	0.901	0.878
B31 - Administrative and regulatory occupations												
Demand Projection	38,936	39,744	40,522	41,303	42,117	43,007	43,884	44,761	45,692	46,623	47,530	
Supply Projection	39,537	40,569	41,418	42,171	42,855	43,520	44,059	44,587	45,098	45,543	45,970	
Demand/Supply	0.985	0.980	0.978	0.979	0.983	0.988	0.996	1.004	1.013	1.024	1.034	0.997
B41 - Clerical supervisors												
Demand Projection	15,011	15,181	15,358	15,542	15,735	15,939	16,146	16,355	16,572	16,792	17,004	
Supply Projection	15,247	15,462	15,653	15,831	16,005	16,169	16,345	16,538	16,742	16,950	17,173	
Demand/Supply	0.985	0.982	0.981	0.982	0.983	0.986	0.988	0.989	0.990	0.991	0.990	0.986

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
B51 - Clerical occupations, general office skills												
Demand Projection	33,859	35,207	36,408	37,654	38,962	40,374	41,823	43,273	44,816	46,376	47,926	
Supply Projection	35,073	36,649	37,825	38,947	40,085	41,249	42,221	43,109	43,989	44,756	45,481	
Demand/Supply*	0.965	0.961	0.963	0.967	0.972	0.979	0.991	1.004	1.019	1.036	1.054	0.992
B52 - Office equipment operators												
Demand Projection	7,600	7,781	7,955	8,144	8,341	8,551	8,767	8,979	9,200	9,416	9,629	
Supply Projection	8,084	8,436	8,693	8,867	8,994	9,091	9,167	9,251	9,326	9,385	9,437	
Demand/Supply	0.940	0.922	0.915	0.919	0.927	0.941	0.956	0.971	0.986	1.003	1.020	0.955
B53 - Finance and insurance clerks												
Demand Projection	40,670	41,302	42,077	42,873	43,677	44,627	45,559	46,530	47,556	48,556	49,488	
Supply Projection	41,605	42,365	43,081	43,733	44,354	45,045	45,619	46,190	46,758	47,271	47,754	
Demand/Supply	0.978	0.975	0.977	0.980	0.985	0.991	0.999	1.007	1.017	1.027	1.036	0.997
B54 - Administrative support clerks												
Demand Projection	37,237	37,495	37,731	37,972	38,222	38,492	38,771	39,054	39,352	39,658	39,962	
Supply Projection	38,108	38,361	38,579	38,773	38,958	39,134	39,325	39,530	39,743	39,956	40,188	
Demand/Supply	0.977	0.977	0.978	0.979	0.981	0.984	0.986	0.988	0.990	0.993	0.994	0.984
B55 - Library, correspondence and related information clerks												
Demand Projection	18,055	18,516	18,925	19,397	19,899	20,421	20,950	21,470	22,044	22,601	23,148	
Supply Projection	18,688	18,704	18,825	19,061	19,334	19,727	20,126	20,513	20,998	21,484	21,950	
Demand/Supply	0.966	0.990	1.005	1.018	1.029	1.035	1.041	1.047	1.050	1.052	1.055	1.026
B56 - Mail and message distribution occupations												
Demand Projection	12,068	12,300	12,581	12,840	13,123	13,393	13,663	13,922	14,186	14,437	14,683	
Supply Projection	12,015	12,262	12,537	12,824	13,120	13,332	13,553	13,759	13,958	14,142	14,342	
Demand/Supply	1.004	1.003	1.004	1.001	1.000	1.005	1.008	1.012	1.016	1.021	1.024	1.009
B57 - Recording, scheduling and distributing occupations												
Demand Projection	26,443	26,987	27,450	27,957	28,503	29,030	29,602	30,162	30,747	31,395	32,031	
Supply Projection	27,366	28,012	28,438	28,821	29,155	29,378	29,612	29,852	30,101	30,355	30,601	
Demand/Supply	0.966	0.963	0.965	0.970	0.978	0.988	1.000	1.010	1.021	1.034	1.047	0.995
C01 - Physical science professionals												
Demand Projection	6,665	6,770	6,835	7,007	7,084	7,346	7,678	7,933	8,213	8,485	9,115	
Supply Projection	6,845	7,012	7,122	7,298	7,387	7,629	7,870	8,028	8,206	8,370	8,673	
Demand/Supply	0.974	0.965	0.960	0.960	0.959	0.963	0.976	0.988	1.001	1.014	1.051	0.983

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
C02 - Life science professionals												
Demand Projection	3,280	3,343	3,423	3,493	3,561	3,615	3,678	3,735	3,788	3,843	4,051	
Supply Projection	3,206	3,013	2,905	2,825	2,767	2,716	2,694	2,676	2,674	2,674	2,817	
Demand/Supply*	1.023	1.110	1.178	1.236	1.287	1.331	1.365	1.396	1.417	1.437	1.438	1.293
C03 - Civil, mechanical, electrical and chemical engineers												
Demand Projection	19,525	19,894	20,248	20,616	20,960	21,320	21,647	22,019	22,419	22,768	23,938	
Supply Projection	19,594	19,934	20,237	20,496	20,725	20,951	21,176	21,407	21,622	21,791	22,147	
Demand/Supply	0.996	0.998	1.001	1.006	1.011	1.018	1.022	1.029	1.037	1.045	1.081	1.022
C04 - Other engineers												
Demand Projection	14,306	14,576	14,778	15,146	15,353	15,844	16,439	16,925	17,445	17,948	19,210	
Supply Projection	14,309	14,327	14,419	14,629	14,768	15,057	15,407	15,721	16,029	16,312	16,955	
Demand/Supply	1.000	1.017	1.025	1.035	1.040	1.052	1.067	1.077	1.088	1.100	1.133	1.058
C05 - Architects, urban planners and land surveyors												
Demand Projection	4,567	4,691	4,788	4,887	5,017	5,135	5,233	5,333	5,444	5,548	5,655	
Supply Projection	4,587	4,725	4,819	4,901	4,996	5,075	5,136	5,213	5,290	5,353	5,420	
Demand/Supply	0.996	0.993	0.994	0.997	1.004	1.012	1.019	1.023	1.029	1.036	1.043	1.013
C06 - Mathematicians, statisticians and actuaries												
Demand Projection	343	352	359	368	378	387	396	405	415	425	434	
Supply Projection	338	340	348	357	367	380	392	401	409	422	431	
Demand/Supply	1.016	1.036	1.034	1.031	1.028	1.018	1.011	1.011	1.014	1.006	1.007	1.019
C07 - Computer and information systems professionals												
Demand Projection	27,863	28,473	28,994	29,574	30,279	30,948	31,580	32,218	32,889	33,544	34,204	
Supply Projection	28,881	29,551	29,985	30,339	30,716	31,064	31,429	31,807	32,153	32,453	32,765	
Demand/Supply	0.965	0.964	0.967	0.975	0.986	0.996	1.005	1.013	1.023	1.034	1.044	0.997
C11 - Technical occupations in physical sciences												
Demand Projection	6,301	6,432	6,542	6,725	6,832	7,069	7,364	7,602	7,852	8,091	8,702	
Supply Projection	6,494	6,588	6,643	6,747	6,785	6,930	7,092	7,213	7,340	7,455	7,752	
Demand/Supply	0.970	0.976	0.985	0.997	1.007	1.020	1.038	1.054	1.070	1.085	1.122	1.030
C12 - Technical occupations in life sciences												
Demand Projection	4,138	4,228	4,308	4,392	4,485	4,576	4,665	4,753	4,843	4,933	5,024	
Supply Projection	4,302	4,350	4,390	4,430	4,477	4,522	4,567	4,611	4,668	4,723	4,775	
Demand/Supply	0.962	0.972	0.981	0.992	1.002	1.012	1.021	1.031	1.038	1.045	1.052	1.010

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
C13 - Technical occupations in civil, mechanical and industrial engineering												
Demand Projection	6,231	6,446	6,597	6,715	6,845	6,975	7,077	7,164	7,265	7,364	7,469	
Supply Projection	6,270	6,468	6,554	6,583	6,614	6,633	6,631	6,633	6,649	6,655	6,662	
Demand/Supply*	0.994	0.997	1.006	1.020	1.035	1.052	1.067	1.080	1.093	1.107	1.121	1.052
C14 - Technical occupations in electronics and electrical engineering												
Demand Projection	11,657	11,938	12,179	12,428	12,692	12,953	13,228	13,486	13,745	14,024	14,303	
Supply Projection	12,368	12,912	13,160	13,220	13,218	13,184	13,127	13,059	12,955	12,835	12,718	
Demand/Supply	0.943	0.925	0.925	0.940	0.960	0.982	1.008	1.033	1.061	1.093	1.125	0.999
C15 - Technical occupations in architecture, drafting and surveying												
Demand Projection	11,062	11,270	11,438	11,606	11,815	12,002	12,174	12,345	12,514	12,689	12,867	
Supply Projection	11,090	11,135	11,142	11,114	11,071	11,020	10,975	10,930	10,872	10,801	10,734	
Demand/Supply	0.997	1.012	1.027	1.044	1.067	1.089	1.109	1.129	1.151	1.175	1.199	1.091
C16 - Other technical inspectors and regulatory officers												
Demand Projection	11,080	11,228	11,351	11,462	11,593	11,716	11,827	11,935	12,045	12,161	12,278	
Supply Projection	11,559	11,690	11,795	11,873	11,929	11,967	11,999	12,027	12,049	12,059	12,065	
Demand/Supply	0.959	0.960	0.962	0.965	0.972	0.979	0.986	0.992	1.000	1.008	1.018	0.982
C17 - Transportation officers and controllers												
Demand Projection	3,310	3,310	3,387	3,491	3,574	3,643	3,726	3,796	3,845	3,919	4,122	
Supply Projection	3,403	3,407	3,453	3,505	3,534	3,555	3,604	3,651	3,685	3,751	3,898	
Demand/Supply	0.973	0.972	0.981	0.996	1.011	1.025	1.034	1.040	1.043	1.045	1.058	1.016
C18 - Technical occupations in computer and information systems												
Demand Projection	12,057	12,395	12,797	13,170	13,491	13,772	14,103	14,407	14,672	14,964	15,987	
Supply Projection	11,802	11,530	11,544	11,642	11,818	12,039	12,357	12,742	13,130	13,551	14,409	
Demand/Supply	1.022	1.075	1.109	1.131	1.142	1.144	1.141	1.131	1.117	1.104	1.110	1.111
D01 - Physicians, dentists and veterinarians												
Demand Projection	11,673	12,020	12,290	12,569	12,840	13,167	13,550	13,944	14,358	14,790	15,231	
Supply Projection	11,592	11,704	11,782	11,830	11,857	11,884	11,908	11,922	11,910	11,875	11,829	
Demand/Supply	1.007	1.027	1.043	1.062	1.083	1.108	1.138	1.170	1.206	1.245	1.288	1.125
D02 - Optometrists, chiropractors and other health diagnosing and treating professionals												
Demand Projection	2,066	2,105	2,135	2,166	2,196	2,232	2,276	2,320	2,367	2,416	2,467	
Supply Projection	2,006	2,015	2,032	2,055	2,080	2,112	2,151	2,190	2,229	2,273	2,317	
Demand/Supply	1.030	1.045	1.051	1.054	1.056	1.057	1.058	1.059	1.062	1.063	1.064	1.055

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
D03 - Pharmacists, dietitians and nutritionists												
Demand Projection	3,556	3,666	3,738	3,829	3,928	4,035	4,149	4,266	4,406	4,551	4,695	
Supply Projection	3,466	3,514	3,521	3,542	3,560	3,582	3,610	3,625	3,651	3,686	3,717	
Demand/Supply*	1.026	1.043	1.062	1.081	1.103	1.126	1.149	1.177	1.207	1.235	1.263	1.134
D04 - Therapy and assessment professionals												
Demand Projection	5,280	5,444	5,572	5,705	5,832	5,988	6,172	6,362	6,561	6,770	6,984	
Supply Projection	5,200	5,332	5,406	5,476	5,534	5,625	5,750	5,874	5,991	6,109	6,224	
Demand/Supply	1.015	1.021	1.031	1.042	1.054	1.064	1.073	1.083	1.095	1.108	1.122	1.064
D11 - Nurse supervisors and registered nurses												
Demand Projection	28,026	28,920	29,618	30,334	31,014	31,850	32,850	33,876	34,951	36,079	37,233	
Supply Projection	27,166	27,746	28,107	28,464	28,803	29,239	29,832	30,468	30,988	31,497	32,049	
Demand/Supply	1.032	1.042	1.054	1.066	1.077	1.089	1.101	1.112	1.128	1.145	1.162	1.092
D21 - Medical technologists and technicians (except dental health)												
Demand Projection	11,555	11,838	12,063	12,297	12,530	12,803	13,118	13,442	13,780	14,134	14,495	
Supply Projection	11,120	11,051	11,086	11,172	11,311	11,502	11,734	11,998	12,284	12,581	12,898	
Demand/Supply	1.039	1.071	1.088	1.101	1.108	1.113	1.118	1.120	1.122	1.123	1.124	1.102
D22 - Technical occupations in dental health care												
Demand Projection	3,725	3,796	3,858	3,918	3,972	4,034	4,119	4,204	4,281	4,371	4,463	
Supply Projection	3,606	3,598	3,607	3,627	3,655	3,708	3,779	3,856	3,939	4,041	4,147	
Demand/Supply	1.033	1.055	1.070	1.080	1.087	1.088	1.090	1.090	1.087	1.082	1.076	1.076
D23 - Other technical occupations in health care (except dental)												
Demand Projection	16,115	16,515	16,828	17,162	17,483	17,866	18,315	18,769	19,251	19,748	20,255	
Supply Projection	15,842	15,907	15,995	16,122	16,273	16,496	16,769	17,069	17,387	17,711	18,072	
Demand/Supply	1.017	1.038	1.052	1.065	1.074	1.083	1.092	1.100	1.107	1.115	1.121	1.079
D31 - Assisting occupations in support of health services												
Demand Projection	24,696	25,469	26,063	26,687	27,287	28,016	28,876	29,759	30,696	31,678	32,678	
Supply Projection	25,041	25,718	26,214	26,658	27,056	27,487	27,923	28,363	28,804	29,227	29,652	
Demand/Supply	0.986	0.990	0.994	1.001	1.009	1.019	1.034	1.049	1.066	1.084	1.102	1.030
E01 - Judges, lawyers and Quebec notaries												
Demand Projection	8,684	8,855	8,996	9,152	9,356	9,541	9,700	9,868	10,047	10,218	10,391	
Supply Projection	8,712	8,760	8,875	9,044	9,255	9,464	9,653	9,870	10,100	10,313	10,522	
Demand/Supply	0.997	1.011	1.014	1.012	1.011	1.008	1.005	1.000	0.995	0.991	0.988	1.003

*Supply Shortage if Greater Than 1

Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
E02 - Psychologists, social workers, counsellors, clergy and probation officers												
Demand Projection	15,930	16,373	16,742	17,149	17,535	17,984	18,499	19,003	19,537	20,065	20,604	
Supply Projection	16,006	16,449	16,875	17,322	17,736	18,203	18,747	19,261	19,793	20,281	20,758	
Demand/Supply*	0.995	0.995	0.992	0.990	0.989	0.988	0.987	0.987	0.987	0.989	0.993	0.990
E03 - Policy and program officers, researchers and consultants												
Demand Projection	13,236	13,557	13,847	14,158	14,501	14,851	15,201	15,555	15,927	16,300	16,674	
Supply Projection	13,481	13,732	14,025	14,339	14,685	15,049	15,450	15,872	16,296	16,704	17,135	
Demand/Supply	0.982	0.987	0.987	0.987	0.987	0.987	0.984	0.980	0.977	0.976	0.973	0.983
E11 - University professors and assistants												
Demand Projection	15,838	16,055	16,276	16,525	16,812	17,110	17,411	17,726	18,065	18,427	18,793	
Supply Projection	16,166	16,514	16,825	17,095	17,354	17,618	17,895	18,173	18,441	18,699	18,957	
Demand/Supply	0.980	0.972	0.967	0.967	0.969	0.971	0.973	0.975	0.980	0.985	0.991	0.976
E12 - College and other vocational instructors												
Demand Projection	13,159	13,336	13,516	13,715	13,941	14,177	14,417	14,666	14,931	15,213	15,497	
Supply Projection	13,267	13,513	13,759	14,005	14,256	14,520	14,801	15,100	15,404	15,714	15,925	
Demand/Supply	0.992	0.987	0.982	0.979	0.978	0.976	0.974	0.971	0.969	0.968	0.973	0.977
E13 - Secondary and elementary school teachers and educational counsellors												
Demand Projection	44,052	44,972	45,921	46,985	48,214	49,494	50,789	52,142	53,599	55,154	56,729	
Supply Projection	44,625	45,510	46,365	47,340	48,420	49,606	50,866	52,240	53,630	55,044	56,578	
Demand/Supply	0.987	0.988	0.990	0.992	0.996	0.998	0.998	0.998	0.999	1.002	1.003	0.996
E21 - Paralegals, social services and occupations in education and religion, n.e.c.**												
Demand Projection	37,235	38,298	39,161	40,080	41,007	42,070	43,267	44,485	45,770	47,089	48,435	
Supply Projection	38,691	39,948	40,973	41,957	42,898	43,870	44,930	46,003	47,019	48,035	49,092	
Demand/Supply	0.962	0.959	0.956	0.955	0.956	0.959	0.963	0.967	0.973	0.980	0.987	0.965
F01 - Librarians, archivists, conservators and curators												
Demand Projection	1,636	1,682	1,722	1,771	1,820	1,872	1,929	1,981	2,037	2,088	2,139	
Supply Projection	1,655	1,615	1,620	1,661	1,698	1,752	1,797	1,841	1,886	1,930	1,981	
Demand/Supply	0.989	1.042	1.063	1.066	1.072	1.069	1.073	1.076	1.080	1.082	1.080	1.063
F02 - Writing, translating and public relations professionals												
Demand Projection	8,452	8,630	8,784	8,971	9,161	9,363	9,579	9,781	9,995	10,190	10,389	
Supply Projection	8,704	9,016	9,249	9,469	9,663	9,861	10,055	10,235	10,402	10,542	10,694	
Demand/Supply	0.971	0.957	0.950	0.947	0.948	0.950	0.953	0.956	0.961	0.967	0.972	0.957

*Supply Shortage if Greater Than 1

Supply Surplus if Less Than 1

** Not Elsewhere Classified

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
F03 - Creative and performing artists												
Demand Projection	6,624	6,812	6,986	7,201	7,417	7,655	7,913	8,156	8,418	8,665	8,917	
Supply Projection	6,830	7,200	7,445	7,682	7,864	8,050	8,252	8,420	8,587	8,724	8,866	
Demand/Supply*	0.970	0.946	0.938	0.937	0.943	0.951	0.959	0.969	0.980	0.993	1.006	0.963
F11 - Technical occupations in libraries, archives, museums and art galleries												
Demand Projection	3,070	3,136	3,195	3,268	3,340	3,420	3,507	3,587	3,675	3,755	3,838	
Supply Projection	3,014	2,977	2,982	3,024	3,071	3,133	3,211	3,277	3,346	3,406	3,473	
Demand/Supply	1.019	1.054	1.071	1.081	1.088	1.092	1.092	1.094	1.098	1.103	1.105	1.081
F12 - Photographers, graphic arts technicians and technical and co-ordinating occupations in motion pictures, broadcasting and the performing arts												
Demand Projection	2,485	2,579	2,658	2,755	2,857	2,963	3,073	3,176	3,285	3,382	3,481	
Supply Projection	2,640	2,825	2,917	3,002	3,070	3,133	3,186	3,235	3,294	3,317	3,365	
Demand/Supply	0.941	0.913	0.911	0.917	0.930	0.946	0.965	0.982	0.997	1.020	1.034	0.960
F13 - Announcers and other performers												
Demand Projection	1,934	1,972	2,007	2,049	2,088	2,133	2,182	2,228	2,276	2,319	2,363	
Supply Projection	1,932	1,950	1,991	2,047	2,088	2,126	2,170	2,206	2,238	2,262	2,286	
Demand/Supply	1.001	1.011	1.008	1.001	1.000	1.003	1.006	1.010	1.017	1.026	1.034	1.011
F14 - Creative designers and craftspersons												
Demand Projection	9,934	10,155	10,405	10,618	10,814	10,960	11,116	11,282	11,423	11,562	12,120	
Supply Projection	10,017	10,125	10,272	10,402	10,520	10,640	10,783	10,933	11,082	11,241	11,593	
Demand/Supply	0.992	1.003	1.013	1.021	1.028	1.030	1.031	1.032	1.031	1.029	1.045	1.023
F15 - Athletes, coaches, referees and related occupations												
Demand Projection	8,964	9,158	9,335	9,546	9,751	9,978	10,226	10,457	10,706	10,938	11,172	
Supply Projection	9,420	9,644	9,779	9,904	10,027	10,154	10,274	10,389	10,513	10,629	10,777	
Demand/Supply	0.952	0.950	0.955	0.964	0.972	0.983	0.995	1.007	1.018	1.029	1.037	0.987
G01 - Sales and service supervisors												
Demand Projection	25,015	25,349	25,662	25,980	26,331	26,703	27,074	27,471	27,923	28,386	28,819	
Supply Projection	25,615	25,972	26,292	26,596	26,889	27,151	27,420	27,707	28,009	28,322	28,669	
Demand/Supply	0.977	0.976	0.976	0.977	0.979	0.984	0.987	0.992	0.997	1.002	1.005	0.987
G11 - Sales representatives, wholesale trade												
Demand Projection	23,984	24,497	25,056	25,550	25,994	26,349	26,761	27,154	27,498	27,843	29,035	
Supply Projection	24,727	25,185	25,602	25,986	26,342	26,648	26,964	27,295	27,630	27,955	28,371	
Demand/Supply	0.970	0.973	0.979	0.983	0.987	0.989	0.992	0.995	0.995	0.996	1.023	0.989

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
G12 - Technical sales specialists, wholesale trade												
Demand Projection	15,174	15,344	15,476	15,634	15,806	15,971	16,155	16,333	16,518	16,728	16,935	
Supply Projection	15,397	15,647	15,849	16,011	16,146	16,256	16,370	16,491	16,610	16,721	16,836	
Demand/Supply*	0.986	0.981	0.976	0.976	0.979	0.982	0.987	0.990	0.994	1.000	1.006	0.987
G13 - Insurance and real estate sales occupations and buyers												
Demand Projection	19,932	20,110	20,403	20,706	20,984	21,371	21,737	22,131	22,564	22,959	23,309	
Supply Projection	19,840	20,319	20,739	21,122	21,475	21,799	22,124	22,459	22,793	23,117	23,433	
Demand/Supply	1.005	0.990	0.984	0.980	0.977	0.980	0.982	0.985	0.990	0.993	0.995	0.987
G21 - Retail salespersons and sales clerks												
Demand Projection	62,588	64,266	65,309	66,785	68,491	70,236	71,936	73,667	75,891	78,173	80,369	
Supply Projection	65,505	67,359	68,275	69,436	70,589	71,497	72,292	73,054	74,156	75,181	76,164	
Demand/Supply	0.955	0.954	0.957	0.962	0.970	0.982	0.995	1.008	1.023	1.040	1.055	0.991
G31 - Cashiers												
Demand Projection	34,700	35,661	36,716	37,608	38,418	39,011	39,737	40,404	40,973	41,571	43,646	
Supply Projection	37,253	38,084	38,915	39,667	40,358	40,589	41,010	41,384	41,719	42,093	42,795	
Demand/Supply	0.931	0.936	0.943	0.948	0.952	0.961	0.969	0.976	0.982	0.988	1.020	0.964
G41 - Chefs and cooks												
Demand Projection	24,832	25,358	26,102	26,640	27,179	27,808	28,473	29,238	30,013	30,835	31,555	
Supply Projection	26,896	27,689	28,525	29,070	29,510	29,917	30,336	30,815	31,275	31,801	32,319	
Demand/Supply	0.923	0.916	0.915	0.916	0.921	0.929	0.939	0.949	0.960	0.970	0.976	0.938
G51 - Occupations in food and beverage service												
Demand Projection	33,011	33,676	34,693	35,396	36,102	36,927	37,785	38,791	39,808	40,884	41,804	
Supply Projection	34,536	35,404	36,446	37,088	37,575	38,069	38,560	39,141	39,722	40,322	40,877	
Demand/Supply	0.956	0.951	0.952	0.954	0.961	0.970	0.980	0.991	1.002	1.014	1.023	0.978
G61 - Police officers and firefighters												
Demand Projection	9,945	10,178	10,404	10,630	10,854	11,075	11,294	11,515	11,741	11,975	12,207	
Supply Projection	10,140	10,431	10,690	10,915	11,124	11,323	11,523	11,716	11,893	12,060	12,224	
Demand/Supply	0.981	0.976	0.973	0.974	0.976	0.978	0.980	0.983	0.987	0.993	0.999	0.982
G62 - Other occupations in protective service												
Demand Projection	4,788	5,058	5,404	5,731	6,082	6,373	6,716	6,986	7,253	7,557	8,546	
Supply Projection	4,903	5,064	5,509	5,988	6,533	6,899	7,411	7,521	7,537	7,653	8,785	
Demand/Supply	0.976	0.999	0.981	0.957	0.931	0.924	0.906	0.929	0.962	0.987	0.973	0.957

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
G63 - Security guards and related occupations												
Demand Projection	6,334	6,509	6,660	6,823	7,029	7,222	7,397	7,581	7,777	7,965	8,152	
Supply Projection	6,979	7,327	7,519	7,662	7,832	7,946	8,007	8,091	8,179	8,248	8,370	
Demand/Supply*	0.908	0.888	0.886	0.891	0.897	0.909	0.924	0.937	0.951	0.966	0.974	0.921
G71 - Occupations in travel and accommodation												
Demand Projection	10,012	10,211	10,457	10,664	10,903	11,134	11,356	11,592	11,832	12,069	12,290	
Supply Projection	9,935	10,139	10,396	10,668	10,942	11,136	11,331	11,553	11,764	11,948	12,153	
Demand/Supply	1.008	1.007	1.006	1.000	0.996	1.000	1.002	1.003	1.006	1.010	1.011	1.005
G72 - Tour and recreational guides and casino occupations												
Demand Projection	1,679	1,767	1,847	1,945	2,038	2,143	2,257	2,361	2,473	2,571	2,669	
Supply Projection	1,715	1,801	1,845	1,937	2,011	2,089	2,181	2,256	2,343	2,392	2,446	
Demand/Supply	0.979	0.981	1.001	1.004	1.013	1.026	1.035	1.047	1.056	1.074	1.091	1.028
G73 - Other occupations in travel, accommodation, amusement and recreation												
Demand Projection	4,873	4,963	5,053	5,152	5,246	5,352	5,468	5,576	5,691	5,794	5,896	
Supply Projection	5,441	5,478	5,529	5,589	5,650	5,715	5,780	5,846	5,912	5,976	6,062	
Demand/Supply	0.896	0.906	0.914	0.922	0.929	0.937	0.946	0.954	0.963	0.970	0.973	0.937
G81 - Childcare and home support workers												
Demand Projection	24,977	25,898	26,705	27,609	28,530	29,573	30,726	31,881	33,113	34,361	35,632	
Supply Projection	27,065	28,356	29,306	30,279	31,186	32,108	33,097	34,051	35,068	36,032	36,885	
Demand/Supply	0.923	0.913	0.911	0.912	0.915	0.921	0.928	0.936	0.944	0.954	0.966	0.929
G91 - Technical occupations in personal service												
Demand Projection	8,737	8,990	9,205	9,492	9,752	10,053	10,394	10,690	11,013	11,283	11,559	
Supply Projection	8,993	9,457	9,728	9,966	10,143	10,333	10,498	10,635	10,771	10,840	10,936	
Demand/Supply	0.971	0.951	0.946	0.952	0.961	0.973	0.990	1.005	1.022	1.041	1.057	0.988
G92 - Other occupations in personal service												
Demand Projection	8,303	8,409	8,495	8,609	8,719	8,842	8,976	9,097	9,232	9,351	9,471	
Supply Projection	8,459	8,503	8,545	8,586	8,629	8,671	8,723	8,784	8,852	8,922	8,993	
Demand/Supply	0.981	0.989	0.994	1.003	1.010	1.020	1.029	1.036	1.043	1.048	1.053	1.019
G93 - Cleaners												
Demand Projection	45,859	47,043	48,145	49,268	50,554	51,871	53,157	54,499	55,927	57,340	58,725	
Supply Projection	48,535	50,003	51,208	52,360	53,475	54,286	55,006	55,772	56,679	57,573	58,431	
Demand/Supply	0.945	0.941	0.940	0.941	0.945	0.956	0.966	0.977	0.987	0.996	1.005	0.964

*Supply Shortage if Greater Than 1

Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
G94 - Butchers and bakers												
Demand Projection	9,077	9,232	9,349	9,488	9,643	9,795	9,960	10,130	10,324	10,540	10,747	
Supply Projection	9,237	9,370	9,503	9,663	9,834	9,995	10,140	10,291	10,457	10,627	10,795	
Demand/Supply*	0.983	0.985	0.984	0.982	0.981	0.980	0.982	0.984	0.987	0.992	0.996	0.985
G96 - Food counter attendants, kitchen helpers and related occupations												
Demand Projection	29,668	30,336	31,259	31,933	32,608	33,397	34,237	35,202	36,183	37,223	38,141	
Supply Projection	32,010	32,571	33,481	34,194	34,886	35,618	36,440	36,984	37,525	38,195	38,933	
Demand/Supply	0.927	0.931	0.934	0.934	0.935	0.938	0.940	0.952	0.964	0.975	0.980	0.946
G97 - Other sales and related occupations												
Demand Projection	29,026	29,749	30,172	30,788	31,523	32,255	32,960	33,678	34,616	35,576	36,505	
Supply Projection	29,862	30,037	30,133	30,520	31,031	31,530	32,039	32,555	33,242	33,884	34,631	
Demand/Supply	0.972	0.990	1.001	1.009	1.016	1.023	1.029	1.035	1.041	1.050	1.054	1.020
G98 - Other elemental service occupations												
Demand Projection	5,270	5,414	5,545	5,700	5,846	6,015	6,203	6,379	6,570	6,745	6,920	
Supply Projection	5,402	5,386	5,385	5,426	5,456	5,493	5,547	5,593	5,662	5,726	5,798	
Demand/Supply	0.976	1.005	1.030	1.050	1.072	1.095	1.118	1.141	1.160	1.178	1.193	1.093
H01 - Contractors and supervisors, trades and related workers												
Demand Projection	37,923	38,683	39,165	39,492	39,803	40,169	40,399	40,545	40,803	41,005	41,230	
Supply Projection	37,963	38,467	38,933	39,377	39,797	40,170	40,537	40,909	41,258	41,576	41,872	
Demand/Supply	0.999	1.006	1.006	1.003	1.000	1.000	0.997	0.991	0.989	0.986	0.985	0.996
H02 - Supervisors, railway and motor transportation occupations												
Demand Projection	5,548	5,577	5,614	5,646	5,681	5,713	5,746	5,776	5,806	5,835	5,864	
Supply Projection	5,557	5,602	5,632	5,650	5,655	5,650	5,641	5,631	5,622	5,613	5,601	
Demand/Supply	0.998	0.996	0.997	0.999	1.005	1.011	1.019	1.026	1.033	1.040	1.047	1.015
H11 - Plumbers, pipefitters and gas fitters												
Demand Projection	15,481	16,065	16,422	16,642	16,855	17,114	17,247	17,315	17,480	17,599	17,735	
Supply Projection	15,995	16,259	16,483	16,663	16,818	16,944	17,045	17,133	17,207	17,249	17,295	
Demand/Supply	0.968	0.988	0.996	0.999	1.002	1.010	1.012	1.011	1.016	1.020	1.025	1.004
H12 - Carpenters and cabinetmakers												
Demand Projection	19,088	20,171	20,809	21,183	21,521	21,951	22,148	22,221	22,472	22,626	22,816	
Supply Projection	19,379	20,174	20,559	20,757	20,956	21,210	21,294	21,300	21,479	21,556	21,650	
Demand/Supply	0.985	1.000	1.012	1.021	1.027	1.035	1.040	1.043	1.046	1.050	1.054	1.028

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
H13 - Masonry and plastering trades												
Demand Projection	12,259	12,852	13,181	13,365	13,534	13,761	13,836	13,843	13,973	14,031	14,108	
Supply Projection	12,516	12,903	13,273	13,611	13,888	14,075	14,219	14,332	14,413	14,453	14,481	
Demand/Supply*	0.980	0.996	0.993	0.982	0.975	0.978	0.973	0.966	0.970	0.971	0.974	0.978
H14 - Other construction trades												
Demand Projection	16,106	16,984	17,481	17,778	18,059	18,421	18,570	18,622	18,853	18,982	19,138	
Supply Projection	16,596	17,103	17,472	17,769	18,050	18,338	18,527	18,693	18,989	19,202	19,430	
Demand/Supply	0.970	0.993	1.001	1.001	1.000	1.005	1.002	0.996	0.993	0.989	0.985	0.994
H21 - Electrical trades and telecommunications occupations												
Demand Projection	22,565	23,509	24,108	24,534	24,938	25,424	25,740	25,949	26,309	26,578	26,874	
Supply Projection	23,299	23,669	23,915	24,144	24,437	24,838	25,214	25,623	26,159	26,490	26,849	
Demand/Supply	0.968	0.993	1.008	1.016	1.021	1.024	1.021	1.013	1.006	1.003	1.001	1.007
H22 - Stationary engineers and power station and system operators												
Demand Projection	2,453	2,485	2,525	2,557	2,591	2,623	2,662	2,700	2,728	2,766	2,804	
Supply Projection	2,544	2,578	2,596	2,601	2,603	2,602	2,601	2,596	2,590	2,584	2,575	
Demand/Supply	0.964	0.964	0.972	0.983	0.995	1.008	1.024	1.040	1.053	1.071	1.089	1.015
H31 - Machinists and related occupations												
Demand Projection	6,077	6,129	6,207	6,272	6,317	6,345	6,431	6,506	6,516	6,579	6,644	
Supply Projection	6,219	6,234	6,249	6,252	6,241	6,223	6,227	6,232	6,218	6,219	6,226	
Demand/Supply	0.977	0.983	0.993	1.003	1.012	1.020	1.033	1.044	1.048	1.058	1.067	1.022
H32 - Metal forming, shaping and erecting trades												
Demand Projection	29,068	29,740	30,292	30,733	31,107	31,494	31,939	32,289	32,562	32,908	33,277	
Supply Projection	29,783	29,922	30,093	30,279	30,500	30,742	31,108	31,500	31,896	32,347	32,791	
Demand/Supply	0.976	0.994	1.007	1.015	1.020	1.024	1.027	1.025	1.021	1.017	1.015	1.013
H41 - Machinery and transportation equipment mechanics												
Demand Projection	25,313	25,805	26,242	26,621	26,999	27,381	27,778	28,128	28,470	28,852	29,237	
Supply Projection	25,545	25,809	26,157	26,549	26,901	27,180	27,496	27,794	28,066	28,363	28,662	
Demand/Supply	0.991	1.000	1.003	1.003	1.004	1.007	1.010	1.012	1.014	1.017	1.020	1.007
H42 - Automotive service technicians												
Demand Projection	19,757	20,195	20,555	21,009	21,459	21,947	22,471	22,951	23,494	23,991	24,490	
Supply Projection	19,986	20,210	20,421	20,688	20,972	21,301	21,689	22,059	22,479	22,889	23,339	
Demand/Supply	0.989	0.999	1.007	1.016	1.023	1.030	1.036	1.040	1.045	1.048	1.049	1.026

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
H43 - Other mechanics												
Demand Projection	3,479	3,543	3,591	3,645	3,698	3,757	3,816	3,870	3,933	3,992	4,051	
Supply Projection	3,629	3,652	3,672	3,694	3,718	3,745	3,773	3,805	3,841	3,878	3,920	
Demand/Supply*	0.958	0.970	0.978	0.987	0.995	1.003	1.011	1.017	1.024	1.029	1.034	1.001
H51 - Upholsterers, tailors, shoe repairers, jewellers and related occupations												
Demand Projection	2,874	2,935	2,994	3,062	3,122	3,181	3,264	3,338	3,399	3,471	3,544	
Supply Projection	2,870	2,908	2,952	3,016	3,066	3,106	3,169	3,220	3,261	3,315	3,357	
Demand/Supply	1.001	1.009	1.014	1.015	1.018	1.024	1.030	1.037	1.043	1.047	1.056	1.027
H52 - Printing press operators, commercial divers and other trades and related occupations, n.e.c.**												
Demand Projection	3,262	3,309	3,360	3,409	3,453	3,493	3,553	3,608	3,642	3,692	3,743	
Supply Projection	3,320	3,404	3,467	3,529	3,571	3,589	3,626	3,658	3,668	3,678	3,686	
Demand/Supply	0.982	0.972	0.969	0.966	0.967	0.973	0.980	0.986	0.993	1.004	1.015	0.983
H53 - Other installers, repairers and servicers												
Demand Projection	10,102	10,411	10,618	10,802	10,992	11,202	11,374	11,520	11,719	11,900	12,084	
Supply Projection	10,163	10,325	10,447	10,603	10,790	10,980	11,159	11,317	11,538	11,754	11,992	
Demand/Supply	0.994	1.008	1.016	1.019	1.019	1.020	1.019	1.018	1.016	1.012	1.008	1.014
H61 - Heavy equipment operators												
Demand Projection	17,243	17,983	18,464	18,763	19,069	19,426	19,619	19,733	19,965	20,149	20,352	
Supply Projection	18,815	19,346	19,667	19,886	20,093	20,211	20,206	20,160	20,205	20,193	20,148	
Demand/Supply	0.916	0.930	0.939	0.943	0.949	0.961	0.971	0.979	0.988	0.998	1.010	0.962
H62 - Crane operators, drillers and blasters												
Demand Projection	2,201	2,299	2,364	2,404	2,443	2,489	2,516	2,533	2,561	2,587	2,615	
Supply Projection	2,328	2,402	2,451	2,466	2,482	2,500	2,504	2,508	2,526	2,533	2,540	
Demand/Supply	0.945	0.957	0.964	0.975	0.985	0.996	1.005	1.010	1.014	1.021	1.029	0.991
H71 - Motor vehicle and transit drivers												
Demand Projection	57,977	59,288	60,846	62,177	63,617	64,999	66,363	67,652	68,958	70,246	71,511	
Supply Projection	59,754	61,437	63,087	64,570	65,983	66,953	67,855	68,757	69,722	70,620	71,474	
Demand/Supply	0.970	0.965	0.964	0.963	0.964	0.971	0.978	0.984	0.989	0.995	1.001	0.977
H72 - Train crew operating occupations												
Demand Projection	2,263	2,295	2,341	2,379	2,420	2,458	2,497	2,533	2,568	2,602	2,634	
Supply Projection	2,432	2,466	2,506	2,544	2,581	2,616	2,655	2,698	2,745	2,798	2,854	
Demand/Supply	0.931	0.931	0.934	0.935	0.938	0.940	0.940	0.939	0.936	0.930	0.923	0.934

*Supply Shortage if Greater Than 1

Supply Surplus if Less Than 1

**Not Elsewhere Classified

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
H73 - Other transport equipment operators and related workers												
Demand Projection	2,087	2,137	2,203	2,258	2,318	2,375	2,431	2,483	2,536	2,586	2,635	
Supply Projection	2,083	2,117	2,156	2,188	2,238	2,276	2,307	2,354	2,410	2,463	2,508	
Demand/Supply*	1.002	1.010	1.022	1.032	1.036	1.043	1.053	1.055	1.052	1.050	1.050	1.037
H81 - Longshore workers and material handlers												
Demand Projection	20,541	20,938	21,292	21,653	22,039	22,403	22,803	23,187	23,573	24,011	24,442	
Supply Projection	21,887	22,201	22,476	22,749	23,025	23,243	23,485	23,731	23,984	24,268	24,572	
Demand/Supply	0.939	0.943	0.947	0.952	0.957	0.964	0.971	0.977	0.983	0.989	0.995	0.965
H82 - Trades helpers and labourers												
Demand Projection	17,838	18,924	19,558	19,941	20,308	20,769	20,973	21,058	21,349	21,522	21,729	
Supply Projection	19,643	20,594	21,037	21,269	21,495	21,731	21,742	21,683	21,792	21,747	21,786	
Demand/Supply	0.908	0.919	0.930	0.938	0.945	0.956	0.965	0.971	0.980	0.990	0.997	0.954
H83 - Public works and other labourers, n.e.c.**												
Demand Projection	2,501	2,602	2,696	2,779	2,869	2,958	3,038	3,114	3,197	3,276	3,355	
Supply Projection	2,843	2,986	3,094	3,183	3,270	3,337	3,387	3,436	3,504	3,566	3,625	
Demand/Supply	0.880	0.871	0.871	0.873	0.877	0.887	0.897	0.906	0.913	0.919	0.926	0.893
I01 - Contractors, operators and supervisors in agriculture, horticulture and aquaculture												
Demand Projection	43,706	43,694	43,726	43,713	43,753	43,816	43,874	43,929	43,972	43,992	44,000	
Supply Projection	44,034	45,864	47,080	47,884	48,462	48,776	48,917	48,995	48,997	48,824	48,436	
Demand/Supply	0.993	0.953	0.929	0.913	0.903	0.898	0.897	0.897	0.897	0.901	0.908	0.917
I02 - Agriculture and horticulture workers												
Demand Projection	9,967	9,951	9,953	9,936	9,939	9,954	9,969	9,983	9,993	9,997	9,994	
Supply Projection	10,443	11,039	11,348	11,448	11,521	11,543	11,463	11,315	11,125	10,903	10,666	
Demand/Supply	0.954	0.901	0.877	0.868	0.863	0.862	0.870	0.882	0.898	0.917	0.937	0.894
I11 - Supervisors, logging and forestry												
Demand Projection	266	269	272	274	275	276	278	279	280	281	282	
Supply Projection	277	292	300	306	311	312	314	316	311	312	312	
Demand/Supply	0.959	0.922	0.906	0.893	0.885	0.885	0.884	0.884	0.899	0.900	0.904	0.902
I12 - Supervisors, mining, oil and gas												
Demand Projection	14,051	14,087	14,153	14,189	14,251	14,300	14,348	14,393	14,414	14,482	14,547	
Supply Projection	14,730	14,722	14,704	14,693	14,684	14,651	14,631	14,635	14,661	14,700	14,755	
Demand/Supply	0.954	0.957	0.963	0.966	0.970	0.976	0.981	0.983	0.983	0.985	0.986	0.973

*Supply Shortage if Greater Than 1

Supply Surplus if Less Than 1

**Not Elsewhere Classified

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
I13 - Underground miners, oil and gas drillers and related workers												
Demand Projection	18,665	18,679	18,738	18,764	18,818	18,857	18,900	18,941	18,950	19,018	19,082	
Supply Projection	19,825	19,858	19,832	19,763	19,651	19,477	19,263	19,024	18,758	18,451	18,124	
Demand/Supply*	0.941	0.941	0.945	0.949	0.958	0.968	0.981	0.996	1.010	1.031	1.053	0.979
I14 - Mine service workers and operators in oil and gas drilling												
Demand Projection	7,771	7,786	7,844	7,868	7,918	7,955	7,994	8,030	8,036	8,100	8,159	
Supply Projection	8,044	8,074	8,111	8,105	8,091	8,046	7,998	7,945	7,879	7,820	7,773	
Demand/Supply	0.966	0.964	0.967	0.971	0.979	0.989	0.999	1.011	1.020	1.036	1.050	0.996
I15 - Logging machinery operators												
Demand Projection	420	429	437	441	446	451	455	459	461	465	468	
Supply Projection	489	551	583	596	601	593	583	569	552	534	514	
Demand/Supply	0.858	0.778	0.749	0.741	0.742	0.760	0.781	0.806	0.836	0.870	0.911	0.803
I16 - Logging and forestry workers												
Demand Projection	772	784	795	803	812	822	830	838	846	853	861	
Supply Projection	924	1,009	1,051	1,071	1,078	1,063	1,046	1,023	995	965	928	
Demand/Supply	0.835	0.777	0.756	0.750	0.754	0.773	0.794	0.820	0.850	0.885	0.928	0.811
I17 - Fishing vessel masters and skippers and fishermen/women												
Demand Projection	51	51	51	51	51	51	51	51	51	51	51	
Supply Projection	56	58	59	59	60	55	55	55	55	54	54	
Demand/Supply	0.904	0.873	0.861	0.857	0.846	0.931	0.934	0.939	0.934	0.939	0.950	0.906
I18 - Other fishing and trapping occupations												
Demand Projection	76	76	76	76	76	77	77	77	77	77	78	
Supply Projection	92	96	98	99	98	96	94	91	89	87	85	
Demand/Supply	0.820	0.788	0.773	0.772	0.781	0.802	0.821	0.842	0.865	0.886	0.912	0.824
I21 - Primary production labourers												
Demand Projection	14,519	14,882	15,231	15,567	15,974	16,365	16,737	17,096	17,452	17,840	18,229	
Supply Projection	16,002	15,961	16,112	16,348	16,696	17,008	17,336	17,657	17,957	18,235	18,538	
Demand/Supply	0.907	0.932	0.945	0.952	0.957	0.962	0.965	0.968	0.972	0.978	0.983	0.957
J01 - Supervisors, processing occupations												
Demand Projection	8,341	8,392	8,470	8,527	8,574	8,604	8,677	8,741	8,749	8,808	8,869	
Supply Projection	8,406	8,390	8,358	8,323	8,285	8,236	8,197	8,176	8,172	8,178	8,201	
Demand/Supply	0.992	1.000	1.013	1.025	1.035	1.045	1.059	1.069	1.071	1.077	1.081	1.042

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
J02 - Supervisors, assembly and fabrication												
Demand Projection	6,634	6,652	6,683	6,706	6,720	6,725	6,756	6,784	6,780	6,801	6,824	
Supply Projection	6,720	6,726	6,721	6,711	6,698	6,676	6,653	6,630	6,606	6,578	6,551	
Demand/Supply*	0.987	0.989	0.994	0.999	1.003	1.007	1.016	1.023	1.026	1.034	1.042	1.011
J11 - Central control and process operators in manufacturing and processing												
Demand Projection	6,858	6,884	6,966	7,011	7,070	7,107	7,175	7,236	7,239	7,316	7,390	
Supply Projection	6,805	6,778	6,830	6,861	6,915	6,955	7,033	7,108	7,094	7,134	7,155	
Demand/Supply	1.008	1.016	1.020	1.022	1.022	1.022	1.020	1.018	1.020	1.025	1.033	1.021
J12 - Machine operators and related workers in metal and mineral products processing												
Demand Projection	1,854	1,903	1,952	1,986	2,011	2,031	2,068	2,097	2,101	2,128	2,158	
Supply Projection	1,833	1,951	2,017	2,048	2,059	2,049	2,063	2,069	2,049	2,056	2,073	
Demand/Supply	1.012	0.975	0.968	0.970	0.977	0.991	1.002	1.014	1.025	1.035	1.041	1.001
J13 - Machine operators and related workers in chemical, plastic and rubber processing												
Demand Projection	4,769	4,802	4,851	4,891	4,922	4,942	4,992	5,038	5,047	5,084	5,123	
Supply Projection	4,866	4,914	4,947	4,965	4,970	4,957	4,939	4,922	4,903	4,877	4,849	
Demand/Supply	0.980	0.977	0.981	0.985	0.990	0.997	1.011	1.023	1.029	1.042	1.056	1.007
J14 - Machine operators and related workers in pulp and paper production and wood processing												
Demand Projection	2,247	2,267	2,312	2,344	2,358	2,357	2,402	2,441	2,423	2,449	2,476	
Supply Projection	2,485	2,567	2,635	2,674	2,679	2,648	2,660	2,657	2,595	2,572	2,549	
Demand/Supply	0.904	0.883	0.877	0.876	0.880	0.890	0.903	0.919	0.934	0.952	0.972	0.908
J15 - Machine operators and related workers in textile processing												
Demand Projection	539	546	556	565	572	575	587	598	600	609	618	
Supply Projection	549	475	423	419	440	479	495	521	543	576	613	
Demand/Supply	0.981	1.151	1.315	1.349	1.298	1.201	1.186	1.148	1.104	1.058	1.009	1.164
J16 - Machine operators and related workers in fabric, fur and leather products manufacturing												
Demand Projection	834	859	894	925	946	958	1,000	1,036	1,041	1,070	1,102	
Supply Projection	864	1,042	1,145	1,199	1,197	1,157	1,175	1,163	1,075	1,050	1,118	
Demand/Supply	0.965	0.824	0.781	0.772	0.790	0.828	0.851	0.890	0.968	1.020	0.985	0.880
J17 - Machine operators and related workers in food, beverage and tobacco processing												
Demand Projection	9,087	9,126	9,210	9,271	9,299	9,299	9,386	9,461	9,431	9,481	9,537	
Supply Projection	9,221	9,235	9,250	9,278	9,317	9,321	9,317	9,321	9,335	9,345	9,365	
Demand/Supply	0.986	0.988	0.996	0.999	0.998	0.998	1.007	1.015	1.010	1.015	1.018	1.003

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix E

Results of Alberta's Occupational Demand and Supply for 140 Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
J18 - Printing machine operators and related occupations												
Demand Projection	3,067	3,122	3,180	3,240	3,295	3,344	3,417	3,484	3,528	3,591	3,656	
Supply Projection	3,048	3,032	3,095	3,219	3,385	3,455	3,557	3,648	3,710	3,786	3,849	
Demand/Supply*	1.006	1.030	1.028	1.007	0.974	0.968	0.961	0.955	0.951	0.949	0.950	0.980
J19 - Machining, metalworking, woodworking and related machine operators												
Demand Projection	4,269	4,358	4,450	4,530	4,607	4,685	4,770	4,850	4,921	4,984	5,212	
Supply Projection	4,349	4,467	4,560	4,632	4,693	4,738	4,785	4,834	4,888	4,947	5,041	
Demand/Supply	0.982	0.976	0.976	0.978	0.982	0.989	0.997	1.003	1.007	1.007	1.034	0.994
J21 - Mechanical, electrical and electronics assemblers												
Demand Projection	5,278	5,326	5,398	5,456	5,496	5,518	5,594	5,661	5,663	5,717	5,774	
Supply Projection	5,400	5,326	5,296	5,297	5,296	5,288	5,330	5,365	5,388	5,436	5,493	
Demand/Supply	0.977	1.000	1.019	1.030	1.038	1.044	1.050	1.055	1.051	1.052	1.051	1.033
J22 - Other assembly and related occupations												
Demand Projection	6,274	6,487	6,704	6,886	7,070	7,237	7,409	7,582	7,735	7,872	8,390	
Supply Projection	6,639	7,001	7,282	7,484	7,655	7,777	7,890	8,009	8,114	8,209	8,712	
Demand/Supply	0.945	0.927	0.921	0.920	0.924	0.930	0.939	0.947	0.953	0.959	0.963	0.939
J31 - Labourers in processing, manufacturing and utilities												
Demand Projection	13,040	13,488	13,989	14,424	14,820	15,203	15,667	16,078	16,418	16,732	17,882	
Supply Projection	13,861	14,466	15,011	15,397	15,699	15,920	16,213	16,442	16,570	16,665	17,623	
Demand/Supply	0.941	0.932	0.932	0.937	0.944	0.955	0.966	0.978	0.991	1.004	1.015	0.963

*Supply Shortage if Greater Than 1

Supply Surplus if Less Than 1

Appendix F

Results of Alberta's Occupational Demand and Supply for Selected NOC 4 Digit Occupations, 2007-2017

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
A014 - Senior managers - Health, education, social and community services and membership organizations												
Demand Projection	351	411	461	518	574	638	712	784	860	935	1,011	
Supply Projection	363	407	467	529	592	653	713	790	876	939	1,034	
Demand/Supply*	0.968	1.009	0.987	0.980	0.969	0.978	0.999	0.992	0.982	0.996	0.978	0.985
A016 - Senior managers - Goods production, utilities, transportation and construction												
Demand Projection	1,976	2,121	2,260	2,350	2,438	2,521	2,609	2,677	2,720	2,795	2,873	
Supply Projection	1,864	2,076	2,364	2,539	2,654	2,731	2,790	2,829	2,875	2,916	2,957	
Demand/Supply	1.060	1.022	0.956	0.926	0.919	0.923	0.935	0.946	0.946	0.959	0.972	0.960
A121 - Engineering managers												
Demand Projection	4,279	4,360	4,433	4,529	4,603	4,714	4,832	4,944	5,063	5,172	5,487	
Supply Projection	4,003	4,072	4,167	4,277	4,396	4,531	4,681	4,844	5,015	5,182	5,385	
Demand/Supply	1.069	1.071	1.064	1.059	1.047	1.040	1.032	1.021	1.010	0.998	1.019	1.039
A321 - Managers in health care												
Demand Projection	3,760	3,837	3,898	3,960	4,020	4,093	4,179	4,268	4,361	4,458	4,557	
Supply Projection	3,641	3,726	3,816	3,910	3,987	4,069	4,159	4,254	4,352	4,451	4,555	
Demand/Supply	1.033	1.030	1.021	1.013	1.008	1.006	1.005	1.003	1.002	1.002	1.001	1.011
A371 - Construction managers												
Demand Projection	8,955	9,631	10,018	10,246	10,465	10,746	10,856	10,892	11,066	11,160	11,276	
Supply Projection	8,434	8,944	9,418	9,876	10,337	10,560	10,742	10,908	11,080	11,226	11,357	
Demand/Supply	1.062	1.077	1.064	1.037	1.012	1.018	1.011	0.999	0.999	0.994	0.993	1.024
A372 - Residential home builders and renovators												
Demand Projection	9,662	9,865	9,978	10,042	10,101	10,180	10,206	10,209	10,256	10,276	10,303	
Supply Projection	9,528	9,636	9,682	9,694	9,694	9,910	10,088	10,252	10,420	10,565	10,695	
Demand/Supply	1.014	1.024	1.031	1.036	1.042	1.027	1.012	0.996	0.984	0.973	0.963	1.009
B213 - Medical secretaries												
Demand Projection	1,975	2,078	2,160	2,244	2,324	2,422	2,539	2,658	2,783	2,914	3,048	
Supply Projection	2,080	2,293	2,455	2,598	2,746	2,886	2,957	3,019	3,084	3,135	3,177	
Demand/Supply	0.950	0.906	0.880	0.864	0.846	0.839	0.859	0.880	0.902	0.929	0.960	0.892
C013 - Geologists, geochemists and geophysicists												
Demand Projection	5,488	5,535	5,598	5,650	5,730	5,797	5,859	5,924	5,975	6,053	6,131	
Supply Projection	5,544	5,653	5,674	5,766	5,671	5,766	5,834	5,806	5,838	5,835	5,896	
Demand/Supply	0.990	0.979	0.987	0.980	1.010	1.005	1.004	1.020	1.024	1.037	1.040	1.007

*Supply Shortage if Greater Than 1

Supply Surplus if Less Than 1

Appendix F

Results of Alberta's Occupational Demand and Supply for Selected NOC 4 Digit Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
C031 - Civil engineers												
Demand Projection	7,938	8,113	8,244	8,365	8,514	8,655	8,768	8,877	9,002	9,120	9,240	
Supply Projection	7,629	7,694	7,743	7,773	7,771	7,870	7,901	7,848	7,853	7,881	7,977	
Demand/Supply*	1.040	1.054	1.065	1.076	1.096	1.100	1.110	1.131	1.146	1.157	1.158	1.103
C032 - Mechanical engineers												
Demand Projection	5,437	5,575	5,709	5,857	5,980	6,137	6,306	6,468	6,636	6,789	7,259	
Supply Projection	5,518	5,637	5,746	5,843	5,972	6,126	6,229	6,267	6,409	6,456	6,559	
Demand/Supply	0.985	0.989	0.994	1.002	1.001	1.002	1.012	1.032	1.035	1.052	1.107	1.019
C034 - Chemical engineers												
Demand Projection	1,691	1,750	1,810	1,879	1,934	2,008	2,092	2,169	2,246	2,317	2,530	
Supply Projection	1,686	1,760	1,832	1,901	1,963	1,828	1,853	2,087	2,109	2,137	2,184	
Demand/Supply	1.003	0.994	0.988	0.988	0.985	1.099	1.129	1.039	1.065	1.084	1.159	1.049
C045 - Petroleum engineers												
Demand Projection	8,019	8,108	8,127	8,305	8,353	8,669	9,076	9,378	9,717	10,047	10,740	
Supply Projection	8,663	8,657	8,696	8,804	8,870	9,018	9,202	9,362	9,517	9,655	10,005	
Demand/Supply	0.926	0.937	0.935	0.943	0.942	0.961	0.986	1.002	1.021	1.041	1.073	0.979
C054 - Land surveyors												
Demand Projection	1,734	1,787	1,827	1,870	1,928	1,980	2,023	2,068	2,117	2,163	2,209	
Supply Projection	1,776	1,829	1,862	1,886	1,912	1,928	1,934	2,016	2,087	2,067	2,045	
Demand/Supply	0.976	0.977	0.981	0.991	1.008	1.027	1.046	1.026	1.014	1.047	1.080	1.016
C151 - Architectural technologists and technicians												
Demand Projection	842	866	885	904	930	954	973	994	1,016	1,037	1,059	
Supply Projection	965	957	945	943	939	935	920	906	895	886	878	
Demand/Supply	0.872	0.905	0.936	0.958	0.990	1.020	1.057	1.097	1.135	1.170	1.206	1.032
C152 - Industrial designers												
Demand Projection	1,008	1,019	1,030	1,041	1,052	1,061	1,073	1,084	1,091	1,102	1,113	
Supply Projection	808	820	829	833	828	817	808	799	793	789	785	
Demand/Supply	1.247	1.242	1.242	1.250	1.270	1.298	1.328	1.357	1.375	1.397	1.418	1.311
C153 - Drafting technologists and technicians												
Demand Projection	7,110	7,238	7,341	7,441	7,564	7,674	7,775	7,874	7,972	8,072	8,175	
Supply Projection	7,391	7,476	7,534	7,533	7,515	7,495	7,487	7,478	7,442	7,386	7,334	
Demand/Supply	0.962	0.968	0.974	0.988	1.007	1.024	1.038	1.053	1.071	1.093	1.115	1.027

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix F

Results of Alberta's Occupational Demand and Supply for Selected NOC 4 Digit Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
C154 - Land survey technologists and technicians												
Demand Projection	1,664	1,707	1,755	1,803	1,848	1,887	1,920	1,964	2,012	2,051	2,196	
Supply Projection	1,925	1,881	1,833	1,805	1,788	1,772	1,759	1,747	1,742	1,739	1,738	
Demand/Supply*	0.864	0.907	0.957	0.999	1.033	1.065	1.091	1.124	1.155	1.179	1.264	1.058
C155 - Mapping and related technologists and technicians												
Demand Projection	871	894	913	934	960	983	1,005	1,027	1,050	1,073	1,096	
Supply Projection	995	995	993	1,000	1,004	1,008	989	971	957	944	932	
Demand/Supply	0.876	0.898	0.920	0.934	0.956	0.975	1.016	1.058	1.098	1.137	1.176	1.004
C111 - Chemical technologists and technicians												
Demand Projection	1,942	1,986	2,034	2,080	2,131	2,172	2,225	2,277	2,312	2,364	2,416	
Supply Projection	2,077	2,114	2,138	2,178	2,197	2,253	2,315	2,363	2,414	2,462	2,570	
Demand/Supply	0.935	0.940	0.951	0.955	0.970	0.964	0.961	0.963	0.958	0.960	0.940	0.954
C112 - Geological and mineral technologists and technicians												
Demand Projection	4,360	4,400	4,448	4,489	4,549	4,600	4,648	4,698	4,738	4,795	4,852	
Supply Projection	4,384	4,439	4,469	4,530	4,547	4,632	4,729	4,798	4,870	4,934	5,117	
Demand/Supply	0.994	0.991	0.995	0.991	1.001	0.993	0.983	0.979	0.973	0.972	0.948	0.984
C134 - Construction estimators												
Demand Projection	1,850	1,971	2,041	2,086	2,131	2,185	2,211	2,225	2,262	2,286	2,314	
Supply Projection	1,904	1,956	1,974	1,975	1,975	1,973	1,964	1,956	1,951	1,942	1,933	
Demand/Supply	0.972	1.007	1.034	1.056	1.079	1.107	1.126	1.138	1.160	1.177	1.197	1.096
C164 - Construction inspectors												
Demand Projection	2,237	2,283	2,315	2,339	2,367	2,396	2,415	2,432	2,455	2,475	2,496	
Supply Projection	2,461	2,462	2,457	2,445	2,452	2,455	2,456	2,457	2,457	2,453	2,449	
Demand/Supply	0.909	0.927	0.942	0.957	0.965	0.976	0.983	0.990	0.999	1.009	1.019	0.971
D011 - Specialist physicians												
Demand Projection	3,866	3,953	4,020	4,089	4,155	4,235	4,332	4,431	4,535	4,644	4,755	
Supply Projection	3,815	3,834	3,913	3,907	3,912	3,877	3,841	3,799	3,748	3,696	3,728	
Demand/Supply	1.013	1.031	1.027	1.047	1.062	1.092	1.128	1.166	1.210	1.256	1.276	1.119
D012 - General practitioners and family physicians												
Demand Projection	4,758	4,853	4,999	5,149	5,252	5,409	5,517	5,683	5,797	5,971	6,090	
Supply Projection	4,638	4,867	4,827	4,819	4,768	4,784	4,801	4,814	4,816	4,820	4,769	
Demand/Supply	1.026	1.013	1.049	1.079	1.118	1.148	1.184	1.223	1.265	1.309	1.370	1.162

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix F

Results of Alberta's Occupational Demand and Supply for Selected NOC 4 Digit Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
D013 - Dentists												
Demand Projection	2,266	2,338	2,395	2,452	2,507	2,574	2,655	2,737	2,824	2,915	3,009	
Supply Projection	2,217	2,119	2,127	2,150	2,182	2,192	2,202	2,210	2,213	2,217	2,196	
Demand/Supply*	1.022	1.104	1.126	1.140	1.149	1.174	1.206	1.239	1.276	1.315	1.370	1.193
D014 - Veterinarians												
Demand Projection	784	806	823	842	869	892	912	933	955	976	998	
Supply Projection	922	885	915	953	996	1,030	1,065	1,099	1,132	1,141	1,137	
Demand/Supply	0.851	0.911	0.899	0.883	0.872	0.866	0.856	0.849	0.843	0.855	0.878	0.870
D021 - Optometrists												
Demand Projection	401	413	422	431	440	452	465	478	493	508	523	
Supply Projection	390	398	407	417	428	436	446	455	465	485	505	
Demand/Supply	1.028	1.039	1.037	1.033	1.028	1.036	1.043	1.050	1.061	1.048	1.037	1.040
D022 - Chiropractors												
Demand Projection	1,520	1,542	1,558	1,575	1,592	1,612	1,636	1,661	1,687	1,714	1,742	
Supply Projection	1,440	1,447	1,460	1,476	1,493	1,500	1,511	1,523	1,533	1,561	1,590	
Demand/Supply	1.055	1.066	1.067	1.067	1.066	1.075	1.082	1.091	1.101	1.098	1.096	1.079
D031 - Pharmacists												
Demand Projection	2,670	2,755	2,849	2,955	3,067	3,186	3,320	3,450	3,598	3,749	4,012	
Supply Projection	2,633	2,669	2,675	2,691	2,705	2,724	2,748	2,762	2,784	2,815	2,844	
Demand/Supply	0.983	1.000	1.017	1.036	1.059	1.081	1.101	1.126	1.155	1.181	1.207	1.086
D032 - Dietitians and nutritionists												
Demand Projection	808	838	861	886	909	937	970	1,004	1,040	1,078	1,117	
Supply Projection	833	844	846	851	855	858	862	864	867	871	874	
Demand/Supply	0.970	0.992	1.018	1.041	1.063	1.092	1.125	1.163	1.199	1.238	1.279	1.107
D041 - Audiologists and speech-language pathologists												
Demand Projection	1,527	1,558	1,623	1,688	1,715	1,746	1,786	1,832	1,867	1,917	1,965	
Supply Projection	1,530	1,558	1,568	1,578	1,583	1,594	1,618	1,640	1,661	1,681	1,696	
Demand/Supply	0.998	0.998	1.005	1.014	1.024	1.034	1.038	1.044	1.051	1.059	1.072	1.031
D042 - Physiotherapists												
Demand Projection	2,058	2,123	2,178	2,254	2,338	2,436	2,546	2,665	2,801	2,958	3,162	
Supply Projection	2,027	2,088	2,127	2,165	2,198	2,247	2,308	2,368	2,426	2,485	2,546	
Demand/Supply	1.015	1.017	1.021	1.027	1.034	1.038	1.041	1.046	1.053	1.060	1.067	1.038

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix F

Results of Alberta's Occupational Demand and Supply for Selected NOC 4 Digit Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
D043 - Occupational therapists												
Demand Projection	928	973	1,009	1,045	1,080	1,122	1,172	1,224	1,279	1,336	1,394	
Supply Projection	997	1,023	1,038	1,052	1,064	1,083	1,108	1,133	1,156	1,180	1,204	
Demand/Supply*	0.931	0.951	0.972	0.993	1.015	1.036	1.058	1.081	1.106	1.133	1.158	1.040
D044 - Other professional occupations in therapy and assessment												
Demand Projection	731	760	782	805	827	854	886	919	953	989	1,025	
Supply Projection	647	663	673	682	689	702	717	733	748	763	778	
Demand/Supply	1.130	1.146	1.162	1.181	1.200	1.217	1.235	1.254	1.275	1.297	1.317	1.220
D111 - Head nurses and supervisors												
Demand Projection	2,231	2,264	2,290	2,316	2,342	2,373	2,410	2,448	2,488	2,530	2,572	
Supply Projection	2,134	2,135	2,118	2,099	2,077	2,129	2,194	2,263	2,325	2,387	2,453	
Demand/Supply	1.045	1.060	1.081	1.104	1.128	1.114	1.098	1.082	1.070	1.060	1.048	1.081
D112 - Registered nurses												
Demand Projection	25,098	25,965	26,642	27,337	27,995	28,805	29,774	30,770	31,811	32,905	34,023	
Supply Projection	25,032	25,611	25,990	26,366	26,726	27,110	27,637	28,205	28,663	29,110	29,596	
Demand/Supply	1.003	1.014	1.025	1.037	1.047	1.063	1.077	1.091	1.110	1.130	1.150	1.068
D211 - Medical laboratory technologists and pathologists' assistants												
Demand Projection	2,137	2,208	2,264	2,323	2,379	2,447	2,527	2,610	2,696	2,786	2,878	
Supply Projection	2,097	2,177	2,278	2,392	2,521	2,549	2,573	2,602	2,636	2,670	2,708	
Demand/Supply	1.019	1.014	0.994	0.971	0.944	0.960	0.982	1.003	1.023	1.043	1.063	1.001
D212 - Medical laboratory technicians												
Demand Projection	2,570	2,634	2,687	2,738	2,790	2,846	2,903	2,961	3,020	3,095	3,179	
Supply Projection	2,638	2,587	2,560	2,545	2,540	2,545	2,603	2,669	2,740	2,813	2,892	
Demand/Supply	0.974	1.021	1.055	1.084	1.109	1.134	1.140	1.144	1.146	1.149	1.150	1.101
D213 - Veterinary and animal health technologists and technicians												
Demand Projection	897	924	946	970	1,003	1,033	1,059	1,087	1,117	1,145	1,175	
Supply Projection	954	944	943	946	953	965	975	988	1,002	1,016	1,031	
Demand/Supply	0.940	0.979	1.004	1.026	1.052	1.070	1.086	1.101	1.115	1.127	1.139	1.058
D214 - Respiratory therapists, clinical perfusionists and cardio-pulmonary technologists												
Demand Projection	2,029	2,060	2,084	2,109	2,133	2,162	2,197	2,233	2,271	2,311	2,351	
Supply Projection	1,722	1,723	1,741	1,768	1,803	1,846	1,887	1,934	1,984	2,036	2,091	
Demand/Supply	1.179	1.195	1.197	1.193	1.183	1.171	1.164	1.155	1.145	1.135	1.124	1.167

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix F

Results of Alberta's Occupational Demand and Supply for Selected NOC 4 Digit Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
D215 - Medical radiation technologists												
Demand Projection	2,955	3,013	3,059	3,105	3,150	3,204	3,269	3,336	3,406	3,479	3,554	
Supply Projection	2,922	2,826	2,757	2,699	2,651	2,727	2,801	2,883	2,972	3,063	3,161	
Demand/Supply*	1.011	1.066	1.110	1.151	1.188	1.175	1.167	1.157	1.146	1.136	1.124	1.130
D219 - Other medical technologists and technicians (except dental health)												
Demand Projection	269	275	280	285	290	294	301	308	313	320	328	
Supply Projection	251	251	254	258	263	269	275	282	290	297	306	
Demand/Supply	1.073	1.096	1.104	1.106	1.104	1.092	1.093	1.091	1.081	1.076	1.074	1.090
D222 - Dental hygienists and dental therapists												
Demand Projection	2,147	2,198	2,238	2,279	2,317	2,365	2,422	2,481	2,542	2,607	2,673	
Supply Projection	2,022	2,036	2,059	2,088	2,123	2,165	2,219	2,277	2,327	2,389	2,453	
Demand/Supply	1.062	1.080	1.087	1.091	1.091	1.092	1.092	1.089	1.092	1.091	1.090	1.087
D223 - Dental technologists, technicians and laboratory bench workers												
Demand Projection	802	816	831	845	855	864	883	901	909	926	944	
Supply Projection	1,208	1,185	1,169	1,155	1,145	1,147	1,155	1,164	1,188	1,218	1,249	
Demand/Supply	0.664	0.688	0.711	0.731	0.747	0.753	0.765	0.774	0.765	0.761	0.756	0.738
D231 - Opticians												
Demand Projection	833	858	874	895	918	943	969	994	1,027	1,061	1,094	
Supply Projection	1,349	1,305	1,265	1,229	1,201	1,186	1,163	1,142	1,121	1,101	1,083	
Demand/Supply	0.618	0.657	0.691	0.728	0.764	0.795	0.833	0.871	0.916	0.964	1.010	0.804
D232 - Midwives and practitioners of natural healing												
Demand Projection	483	501	515	530	545	562	582	603	626	649	672	
Supply Projection	558	574	592	610	633	647	656	666	677	688	700	
Demand/Supply	0.866	0.873	0.871	0.868	0.860	0.868	0.887	0.905	0.925	0.944	0.961	0.893
D233 - Licensed practical nurses												
Demand Projection	7,080	7,276	7,429	7,586	7,734	7,917	8,137	8,362	8,598	8,845	9,099	
Supply Projection	7,896	7,762	7,638	7,529	7,466	7,475	7,595	7,725	7,863	8,002	8,157	
Demand/Supply	0.897	0.937	0.973	1.008	1.036	1.059	1.071	1.082	1.093	1.105	1.115	1.034
D234 - Ambulance attendants and other paramedical occupations												
Demand Projection	3,565	3,632	3,687	3,743	3,797	3,859	3,930	4,003	4,078	4,158	4,239	
Supply Projection	3,172	3,277	3,387	3,505	3,567	3,667	3,742	3,823	3,909	3,996	4,092	
Demand/Supply	1.124	1.108	1.089	1.068	1.065	1.053	1.050	1.047	1.043	1.041	1.036	1.066

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix F

Results of Alberta's Occupational Demand and Supply for Selected NOC 4 Digit Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
D235 - Other technical occupations in therapy and assessment												
Demand Projection	3,292	3,386	3,461	3,547	3,627	3,724	3,836	3,944	4,060	4,173	4,288	
Supply Projection	2,868	2,989	3,114	3,248	3,406	3,521	3,613	3,713	3,817	3,924	4,041	
Demand/Supply*	1.148	1.133	1.111	1.092	1.065	1.058	1.062	1.062	1.064	1.063	1.061	1.084
D311 - Dental assistants												
Demand Projection	3,311	3,432	3,526	3,623	3,716	3,829	3,964	4,103	4,248	4,401	4,557	
Supply Projection	3,610	3,718	3,799	3,874	3,942	4,015	4,088	4,163	4,238	4,311	4,384	
Demand/Supply	0.917	0.923	0.928	0.935	0.943	0.954	0.970	0.986	1.002	1.021	1.039	0.965
D312 - Nurse aides, orderlies and patient service associates												
Demand Projection	14,643	15,124	15,499	15,886	16,252	16,703	17,242	17,795	18,375	18,982	19,603	
Supply Projection	15,897	16,267	16,520	16,738	16,925	17,130	17,336	17,543	17,748	17,939	18,130	
Demand/Supply	0.921	0.930	0.938	0.949	0.960	0.975	0.995	1.014	1.035	1.058	1.081	0.987
D313 - Other assisting occupations in support of health services												
Demand Projection	6,063	6,227	6,414	6,606	6,804	7,009	7,219	7,435	7,658	7,965	8,283	
Supply Projection	5,534	5,700	5,871	5,989	6,109	6,231	6,355	6,482	6,612	6,744	6,879	
Demand/Supply	1.096	1.092	1.092	1.103	1.114	1.125	1.136	1.147	1.158	1.181	1.204	1.132
H012 - Contractors and supervisors, electrical trades and telecommunications occupations												
Demand Projection	3,896	3,970	4,017	4,048	4,078	4,115	4,136	4,149	4,175	4,193	4,213	
Supply Projection	4,377	4,411	4,440	4,466	4,415	4,357	4,330	4,302	4,269	4,234	4,195	
Demand/Supply	0.890	0.900	0.905	0.906	0.924	0.945	0.955	0.964	0.978	0.990	1.004	0.942
H015 - Contractors and supervisors, carpentry trades												
Demand Projection	4,457	4,580	4,649	4,690	4,728	4,778	4,797	4,802	4,833	4,848	4,868	
Supply Projection	5,650	5,216	4,737	4,214	4,236	4,250	4,294	4,337	4,374	4,409	4,440	
Demand/Supply	0.789	0.878	0.981	1.113	1.116	1.124	1.117	1.107	1.105	1.100	1.096	1.048
H017 - Contractors and supervisors, heavy construction equipment crews												
Demand Projection	5,001	5,258	5,415	5,512	5,607	5,724	5,779	5,808	5,884	5,935	5,993	
Supply Projection	5,476	5,634	5,804	5,989	6,089	6,194	6,039	5,887	5,746	5,573	5,397	
Demand/Supply	0.913	0.933	0.933	0.920	0.921	0.924	0.957	0.987	1.024	1.065	1.110	0.972
H019 - Contractors and supervisors, other construction trades, installers, repairers and servicers												
Demand Projection	10,595	10,749	10,835	10,886	10,934	10,996	11,020	11,027	11,066	11,085	11,110	
Supply Projection	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	
Demand/Supply	1.019	1.034	1.042	1.047	1.051	1.057	1.060	1.060	1.064	1.066	1.068	1.052

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

Appendix F

Results of Alberta's Occupational Demand and Supply for Selected NOC 4 Digit Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
H111 - Plumbers												
Demand Projection	6,835	7,203	7,414	7,540	7,660	7,815	7,879	7,903	8,003	8,059	8,127	
Supply Projection	7,024	7,233	7,429	7,608	7,339	7,942	7,964	7,980	7,988	7,981	7,976	
Demand/Supply*	0.973	0.996	0.998	0.991	1.044	0.984	0.989	0.990	1.002	1.010	1.019	1.000
H112 - Steamfitters, pipefitters and sprinkler system installers												
Demand Projection	7,387	7,585	7,719	7,802	7,884	7,975	8,035	8,071	8,125	8,177	8,236	
Supply Projection	7,628	7,671	7,691	7,686	8,040	7,630	7,718	7,800	7,876	7,938	8,002	
Demand/Supply	0.968	0.989	1.004	1.015	0.981	1.045	1.041	1.035	1.032	1.030	1.029	1.015
H113 - Gas fitters												
Demand Projection	519	539	554	565	577	590	601	609	620	630	641	
Supply Projection	1,343	1,355	1,364	1,369	1,439	1,372	1,364	1,354	1,343	1,330	1,317	
Demand/Supply	0.387	0.398	0.406	0.413	0.401	0.430	0.441	0.450	0.462	0.474	0.487	0.432
H121 - Carpenters												
Demand Projection	16,909	17,922	18,503	18,840	19,150	19,554	19,715	19,764	20,006	20,136	20,299	
Supply Projection	17,226	17,975	18,360	18,580	18,800	19,070	19,187	19,232	19,434	19,543	19,668	
Demand/Supply	0.982	0.997	1.008	1.014	1.019	1.025	1.028	1.028	1.029	1.030	1.032	1.017
H211 - Electricians (except industrial and power system)												
Demand Projection	13,163	13,775	14,131	14,346	14,547	14,804	14,918	14,964	15,126	15,223	15,339	
Supply Projection	13,216	13,468	13,651	13,824	14,035	14,232	14,411	14,608	14,876	15,025	15,188	
Demand/Supply	0.996	1.023	1.035	1.038	1.036	1.040	1.035	1.024	1.017	1.013	1.010	1.024
H532 - Waterworks and gas maintenance workers												
Demand Projection	712	750	790	833	867	910	961	1,003	1,047	1,091	1,215	
Supply Projection	778	811	842	876	914	953	992	1,031	1,076	1,123	1,172	
Demand/Supply	0.915	0.925	0.939	0.951	0.949	0.955	0.968	0.973	0.973	0.972	1.037	0.960
H821 - Construction trades helpers and labourers												
Demand Projection	15,572	16,531	17,083	17,404	17,707	18,096	18,250	18,298	18,532	18,659	18,817	
Supply Projection	17,319	18,125	18,482	18,652	18,816	18,986	18,960	18,873	18,931	18,855	18,852	
Demand/Supply	0.899	0.912	0.924	0.933	0.941	0.953	0.963	0.970	0.979	0.990	0.998	0.951
I122 - Supervisors, oil and gas drilling and service												
Demand Projection	14,091	14,192	14,165	14,368	14,401	14,828	15,361	15,755	16,216	16,661	17,552	
Supply Projection	14,296	14,321	14,336	14,344	14,346	14,318	14,302	14,309	14,338	14,380	14,437	
Demand/Supply	1	0.991	0.988	1.002	1.004	1.036	1.074	1.101	1.131	1.159	1.216	1.062

*Supply Shortage if Greater Than 1

Supply Surplus if Less Than 1

Appendix F

Results of Alberta's Occupational Demand and Supply for Selected NOC 4 Digit Occupations, 2007-2017 (Cont.)

Occupational Projections	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2007-2017
I132 - Oil and gas well drillers, servicers, testers and related workers												
Demand Projection	18,196	18,206	18,254	18,275	18,320	18,352	18,388	18,422	18,429	18,485	18,538	
Supply Projection	18,813	18,854	18,839	18,783	18,687	18,531	18,337	18,118	17,874	17,590	17,287	
Demand/Supply*	0.967	0.966	0.969	0.973	0.980	0.990	1.003	1.017	1.031	1.051	1.072	1.002
I142 - Oil and gas well drilling workers and services operators												
Demand Projection	7,368	7,444	7,403	7,575	7,590	7,970	8,457	8,808	9,218	9,618	10,392	
Supply Projection	7,878	7,891	7,908	7,882	7,846	7,779	7,705	7,625	7,530	7,440	7,357	
Demand/Supply	0.935	0.943	0.936	0.961	0.967	1.025	1.098	1.155	1.224	1.293	1.413	1.086
I215 - Oil and gas drilling, servicing and related labourers												
Demand Projection	6,902	7,034	7,001	7,251	7,305	7,834	8,475	8,959	9,534	10,088	11,207	
Supply Projection	7,315	7,464	7,701	7,981	8,300	8,607	8,926	9,246	9,556	9,858	10,170	
Demand/Supply	0.944	0.942	0.909	0.909	0.880	0.910	0.949	0.969	0.998	1.023	1.102	0.958
J012 - Supervisors, petroleum, gas and chemical processing and utilities												
Demand Projection	3,018	3,047	3,084	3,111	3,141	3,167	3,198	3,225	3,242	3,273	3,303	
Supply Projection	3,105	3,113	3,083	3,051	3,018	2,999	3,015	3,037	3,063	3,079	3,100	
Demand/Supply	0.972	0.979	1.000	1.020	1.041	1.056	1.061	1.062	1.058	1.063	1.066	1.034
J112 - Petroleum, gas and chemical process operators												
Demand Projection	6,200	6,322	6,344	6,574	6,637	7,068	7,622	8,027	8,480	8,923	9,844	
Supply Projection	6,132	6,125	6,190	6,235	6,300	6,354	6,440	6,525	6,528	6,581	6,615	
Demand/Supply	1.011	1.032	1.025	1.054	1.053	1.112	1.183	1.230	1.299	1.356	1.488	1.168

*Supply Shortage if Greater Than 1
Supply Surplus if Less Than 1

